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FREE HIGH SCHOOLS

OF WISCONSIN

Manual, 1894.

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SECOND EDITION, (Revised)

OLIVER E. WELLS,

State Superintendent.

MANUAL

OF THE

FREE HIGH SCHOOLS

OF

WISCONSIN.

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INTRODUCTION.

This *Manual* is intended to aid in interpreting the laws relating to free high schools; to furnish information regarding their establishment, organization and management and to offer suitable suggestions as to the scope and character of the instruction in such schools.

In this, the second, edition the work has been thoroughly revised and rearranged in accordance with the experience of the office and suggestions received from many critics.

Part I contains general suggestions and the courses of study; Part II comments on the courses and suggestive methods of teaching; Part III, the laws under which the schools are organized and maintained.

The paragraphs of the Manual are numbered consecutively in order to facilitate cross references. Frequent references are made to the *Manual of the Elementary Course of Study for Common Schools* by use of the initials and the number of the paragraph as: C. S. M., 14.

In the index the references are to paragraphs.

Y A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

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PART I.

GENERAL SUGGESTIONS.

GENERAL SUGGESTIONS.

ORGANIZATION.

1. In organizing and establishing a school the following steps are necessary:

1. The boards of supervisors of towns, the boards of trustees of villages, the common councils of cities, or the district boards of school districts shall submit the question of establishing such a school to the legal voters in the form of a written resolution. 243. 280. 281.

2. An affirmative vote by ballot, at a regular or specially called meeting of the legal voters of the town, village, city or school district, upon the adoption of the resolution submitted. 243.

3. A canvass of the votes in the same manner as other votes by the municipality are canvassed, and a certification of the result of the vote. 243.

4. An election of a high school board, except in cities and in villages or districts having a school of not less than two departments. 251.

5. An examination of the pupils to determine whether there are twenty-five residing in the high school district prepared to take up a high school course.

When a school is ready, the high school board should notify the state superintendent under whose supervision the examination will be conducted by the high school inspector.

The questions will be based upon the work proposed by *The Manual of the Elementary Course of Study for Common Schools.* 13-22. 255.

6. The adoption at a regular meeting of the high school

board of a course of study and the approval of the course by the state superintendent. 252. 273.

7. An inspection of the school and its appliances.

8. The approval of the qualifications of the teachers—
273. 255- 65.

2. When these preliminaries have been satisfactorily completed the state superintendent will issue a certificate of establishment.

COURSES OF STUDY.

3. The superintendent has prepared several courses of study. The first, a Three Years' Course, should be adopted without change, in schools of that rank, and the order of the branches should be maintained as presented, though a transposition of Arithmetic and Book-keeping, with Algebra is allowed.

4. Four other courses are also presented, each of which is preparatory to the course of the same name in the state university and is fully approved and recommended by that institution. Where but one course is maintained, the English must be adopted. If another is to be selected, it should be the General Science or Modern Classical. Where the teaching force is sufficient either or both of the other courses may be added. However, none but the first may be adopted alone, and no one of the other three except in connection with the first.

More of our free high schools could well afford to provide thorough instruction in Greek as well as Latin.

5. In order thoroughly to understand these courses they should be studied carefully in connection with the comments under the different branches of Part II. of this Manual.

These courses have been widely adopted with little modification and have given general satisfaction.

6. The Three Years' Course may be administered by the principal alone. No Four Years' course will be approved for any locality unless there is in the school at least one qualified assistant, who devotes all his time to the high school.

COURSES OF STUDY.

PREPARED BY THE STATE SUPERINTENDENT.

7. THREE YEARS' COURSE. 6.

FIRST YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
ENGLISH GRAMMAR. 30.	COMPOSITION.	COMPOSITION.
PHYSICAL GEOGRAPHY. 91.	PHYSICAL GEOGRAPHY.	BOTANY.
ALGEBRA. 3.	ALGEBRA.	ALGEBRA.
LITERARY READINGS.		

SECOND YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
U. S. HISTORY. 201.	U. S. HISTORY.	CONSTITUTIONS. 202.
BOTANY.	PHYSIOLOGY.	PHYSIOLOGY.
ARITHMETIC. 3.	BOOKKEEPING. 180.	ARITHMETIC.
LITERARY READINGS.		

THIRD YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
GENERAL HISTORY.	GENERAL HISTORY.	GENERAL HISTORY.
PHYSICS.	PHYSICS.	PHYSICS.
PLANE GEOMETRY.	PLANE GEOMETRY.	THEORY AND ART. 152, 273.
LITERARY READINGS.		

FOUR YEARS' COURSES.

8. ENGLISH AND GENERAL SCIENCE. 4. 5. 6.

FIRST YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
ENGLISH GRAMMAR. 30	COMPOSITION.	COMPOSITION.
PHYSICAL GEOGRAPHY. 91.	PHYSICAL GEOGRAPHY.	BOTANY.
ALGEBRA. 172.	ALGEBRA.	ALGEBRA.
LITERARY READINGS.		

SECOND YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
BOTANY.	PHYSIOLOGY.	PHYSIOLOGY.
U. S. HISTORY. 201.	U. S. HISTORY.	CONSTITUTIONS. 202.
ARITHMETIC. 172.	BOOKKEEPING. 180.	ARITHMETIC.
LITERARY READINGS.		

THIRD YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
PLANE GEOMETRY.	PLANE GEOMETRY.	SOLID GEOMETRY.
HISTORY. 203.	HISTORY.	HISTORY.
POLITICAL ECONOMY OF GERMAN.	WORD ANALYSIS OF GERMAN.	RHETORIC OF GERMAN.
LITERARY READINGS.		

FOURTH YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
ENGLISH LITERATURE.	ENGLISH LITERATURE.	ENGLISH LITERATURE.
PHYSICS.	PHYSICS.	PHYSICS.
MENTAL SCIENCE OF GERMAN.	REVIEWS OF GERMAN.	THEORY AND ART OF GERMAN. 152-273.
LITERARY READINGS.		

9. MODERN AND ANCIENT CLASSICAL. 4. 5. 6.

N. B —These are to be used only in connection with the English Course. In case either is adopted, it may be necessary in order to save recitations, to transpose Geometry and Arithmetic-Bookkeeping, in the English and General Science Courses, placing the former in the Second Year. Then one term of the Third Year Arithmetic should be, in the English and Scientific Courses, devoted to Algebra and Geometry. This is the more logical arrangement.

FIRST YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
ENGLISH GRAMMAR. 30.	LATIN.	LATIN.
PHYSICAL GEOGRAPHY. 91.	PHYSICAL GEOGRAPHY.	BOTANY.
ALGEBRA. 172.	ALGEBRA.	ALGEBRA.
LITERARY READINGS.		

SECOND YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
LATIN.	LATIN.	LATIN.
UNITED STATES HIST. } 234.	UNITED STATES HISTORY.	CONSTITUTIONS. 202-234.
PLANE GEOMETRY. } 201.	PLANE GEOMETRY.	SOLID GEOMETRY.
LITERARY READINGS.		

THIRD YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
LATIN.	LATIN.	LATIN.
HISTORY. 203.	HISTORY.	HISTORY.
GERMAN or GREEK.	GERMAN or GREEK.	GERMAN or GREEK.
LITERARY READINGS.		

FOURTH YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
LATIN.	LATIN.	LATIN.
PHYSICS	PHYSICS.	PHYSICS.
GERMAN OR GREEK.	GERMAN OR GREEK.	GERMAN OR GREEK.
LITERARY READINGS.		

EMPLOYMENT OF TEACHERS.

10. The high school board should be careful in choosing teachers, and should not enter into contract with any one not possessing legal qualifications. 273. 255. 265.

RECORDS.

11. Boards should provide for the high school two record books sufficiently large to serve for several years. In one which may be in form like the following, should be kept the term or semi-term standings:

Arithmetic.				Grammar.			History.			
A. B.	75	83	78	93	79	86	88	84	83
	88			83			85			
C. D.									
									

12. The other should record final standings only and may be ruled as follows:

Name.	Arith.	Gram.	Hist.
J. S.	83	83	79

These books should be frequently examined because upon the accuracy with which they are kept will depend the power of the board to comply with the provisions of the law relating to certificates for graduates. 279.

STANDARD OF ADMISSION.

13. The standard established at the examination for organization must not be lowered after the establishment of the school. The minimum standard of admission to all the free high schools of the state will be *The Course of Study for Common Schools*. If pupils who have not completed this course are received and taught by the teachers in the high schools, a *pro rata* deduction will be made from the amount reported as expended for instruction in the high school department. This may mean a reduced apportionment of state aid. 255. 268.

14. The following is a summary of the course laid down in *The Manual of the Elementary Course of Study for Common Schools* and will assist in determining the requisites for admission to the high schools. However the closer study of that *Manual* will indicate more clearly the force and meaning of this summary. To facilitate consultation references to that publication are inserted.

READING.

15. The pupil should have acquired:

1. Ability to read intelligently and with good expression any selection in the Fourth Reader.
2. Ability to give a clear statement of the meaning, to define the words used, and to explain the allusions.
3. Ability to modulate the voice at will in stress, volume, pitch, rate, inflection and quality.
4. Ability to recite well choice selections of prose and poetry equal to six pages of the reader.
5. Ability to use the dictionary intelligently. (C. S. M. 49.)

SPELLING.

16. The pupil should spell correctly through force of habit whatever he writes. He should have the habit of

consulting the dictionary in all doubtful cases. He may fairly be tested by his spelling in examination papers, by a list of words, not less than fifty in number, promiscuously arranged, and by his ability to apply the principal rules of spelling. (C. S. M. 228.)

WRITING.

17. The pupil should have the ability to write legibly, neatly and in good form. (C. S. M., 248.)

GRAMMAR.

18. The pupils should be able:

1. To give clear and grammatical expression to their thoughts orally or in writing, and to use capitals and punctuation marks correctly.

2. To use a vocabulary sufficient to express their thoughts with precision.

3. To construct sentences using correctly the forms of nouns, pronouns, adjectives and verbs suggested in the outline of work.

4. To separate easy composition into component sentences, and sentences into principal and modifying elements, and to apply rules of construction. (C. S. M., 83.)

GEOGRAPHY.

19. The pupil should be able:

1. To read maps readily.

2. To sketch in outline each of the continents, and to state approximately, their relative size, using Wisconsin and the United States as units of measure.

3. To give the system of water-partings and drainage slopes of each continent.

4. To locate and tell something about any land or water form, city, or other point of interest included in the course of tracing lessons.

5. To describe important areas of production, especially those of our own country.

6. To draw from memory, and with a fair degree of accuracy as to detail, a map of Wisconsin.

7. To comprehend clearly the system of reckoning standard time; also the method of surveying public lands, with its practical applications.

8. To show by means of diagrams or drawings the course of constant and of periodic winds and of ocean currents, and to explain the causes and effects of the same. (C. S. M. 216.)

ARITHMETIC.

20. The pupil should show:

1. Ability to analyze problems involving applications of Percentage indicated in the course of study, problems in proportion, and in Mensuration of Surfaces and Solids where geometrical formulas are not employed. This analysis should show a logical train of thought properly expressed.

2. Ability to indicate by arithmetical symbols the operations necessary to the solution of problems in the classes mentioned above.

3. Ability to extract square and cube roots by some one method and to give an explanation of the process used.

4. Ability to state original practical problems of the various classes indicated in 1, and to solve them.

5. Skill in writing the various kinds of business forms in common use, and in performing by short methods the computations required in ordinary business transactions.

6. Ability to define arithmetical terms used, and to state rules for performing operations.

7. Accuracy and rapidity in performing the work required above are essential requisites for completion of the work of this Form. (C. S. M., 172.)

PHYSIOLOGY.

21. The pupil should be able to give the general structure of the principal organs of the body, their chief func-

tions and the well established laws of health with intelligent reasons for following them. (C. S. M., 265.)

22. It is expected that both history and constitutions will have been studied before the pupil enters the high school. It is a difficult matter to make a summary of the preliminary work that should be done in those branches and so reference is made to *The Manual for Common Schools*.

History. (C. S. M., 271-280.)

Constitutions. (C. S. M., 281-297.)

OUTBUILDINGS.

23. On the 29th of May, 1894, a circular letter was sent by the State Superintendent to Principals and School Boards from which the following sentence is taken: "I have determined to withhold state aid from such high schools as shall not maintain suitable, clean privies of ample size and so situated as to be no offense to decency nor to health." 268.

24. At an earlier date a circular upon school architecture was issued and from it the following is extracted:

25. "The construction and care of privies is a difficult part of school management. Much has been written and said about it, but the utterly repulsive condition of most of these necessary conveniences shows that the progress in this matter has been very slow. Nevertheless the interests of life, health and decency demand that the struggle should be continued. The following rules ought to be rigidly observed in their construction:

1. They should be private, that is, masked or screened from observation. A row of Balsam fir or Norway spruce planted between the privies and the road will make an effective screen in a few years, and will add greatly to the beauty of the place.

2. They should be separate, out of sight and out of mind, each from the other.

3. They should be well lighted and well ventilated.

4. They should be constantly supervised and kept clean.

26. The last rule can be obeyed only by constant and

discreet vigilance. It will impose on teacher or janitor duties that are always unpleasant and may sometimes seem to be indelicate, but the abhorrent condition of school privies demands that almost any sacrifice be made to save children from the mental and moral degradation incident to daily contact with indecency.

27. Generally a little plain talk to the boys will secure the co-operation of the well-disposed. With their aid, vigilant care on the teacher's part will beget a sentiment that will restrain the thoughtless.

28. These outbuildings should be plainly, but substantially built; they should be raised at least one foot above the ground, and placed on substantial foundations. Inside walls and ceilings should be covered with matched boards, and on the last coat of paint sand should be sifted to prevent marking. These buildings should be separated into compartments by board partitions six feet in height. In the boys' privies urinals should be provided discharging into the vaults, and in each privy at least one seat should be provided so low that young children may occupy it and still rest the feet on the floor. The receptacle for excrements should be made water tight, so that no portion of them can be filtered into the ground. Vaults may be of brick with brick floors, extending one foot beyond and in the rear of the building. The vault floor should slope toward the rear to facilitate cleaning, and the projection of the vault should be closed by a tightly fitting door, hinged to the house and secured by a lock. From the vault a tight wooden flue, six inches square, should extend above the roof and in the rear of the building for ventilation. The contents of the vault should be frequently covered with dry earth or dry wood ashes, and the vault should be cleaned in vacation and thoroughly disinfected. A cheap and effective disinfectant may be made by dissolving chloride of lime in water, using one pound to a gallon of water. This may be used to disinfect urinals, and if sprinkled occasionally over the floors of outbuildings and then washed off, will help to render their condition tolerable."

PART II.

SUBJECTS AND METHODS.

LANGUAGE.

ENGLISH.

29. In the administration of any well regulated course of study few branches can be considered as isolated. Each study must be viewed in the light of those that precede and of those that follow. A wise principal then, will study the work of one branch in its place in the group and will see that no time is wasted in fruitless repetition and that in the separate branches no phases of importance are left unexamined. In fact, the proper correlation of studies throughout the course is the one task that devolves absolutely upon the principal and the fidelity with which he discharges this duty will be in a large degree the measure of his success.

30. English composition, grammar, word analysis, rhetoric, English literature and literary readings form a group of studies in which the work must be continuous. A few underlying principles govern the teaching of all and the domain of one encroaches broadly upon that of another. The aims of all are to secure a ready and fluent use of both the spoken and written language and at the same time to open the mind to the powerful influences exerted by books.

31. Here, as elsewhere, it is assumed that the pupil enters the high school prepared fully on the work in *The Manual for Common Schools*. It has been repeatedly claimed by critics of the high schools that graduates could not comply with the professed requirements for admission. If then, some pupils have entered the school with inadequate

preparation the difficulty should be removed by special exertion with these personally. Composition work should be continued throughout the course, but it should be of so varied a nature as never to sacrifice the interest of the class or fall into the domain of pure drudgery.

32. Before the formal study of Rhetoric and as a prerequisite to graduation from every course, all pupils should be able: (1.) To write moderately difficult sentences of all kinds. (2.) To write clear and correct letters—letters of friendship and letters of business. (3.) To write simple exercises in narration and description in a becoming style. (4.) To apply the rules for punctuation and capitals. (5.) To use the common figures of speech, as, the simile and the metaphor; and also to observe these principles on the printed page.

The following on Composition and English literature, taken from an article by O. F. Emerson, is full of valuable suggestions and should be read and frequently consulted by every teacher of English.

COMPOSITION.*

33. "The power of expression comes only by practice and training. The teacher's work is in one direction, supervision, inspiration. Every recitation should be in some sense an exercise in English. Recitations should not be mere statements in set forms of facts learned, but an interchange of thought. The pupil's real knowledge can be expressed in words fully his own. Training of especial value may be obtained in translation, and to acquire a clear, pure, vivid, English rendering is to enrich the pupil's vocabulary and ensure some appreciation of literary form. * * *

34. Of the four classes of prose—description, narration, exposition, argument—the first two only will be much used. The best training will come from treating simple subjects in a simple manner. In the selection of subjects the pupil should have some choice, and the teacher a definite supervision. These will be secured by giving for the exercise

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five or six subjects, of which each pupil chooses one. Later he may be given the privilege of selecting his own subject, after conference with the teacher, who should be sure the pupil has reason for his choice and ability to treat it. Subjects selected should appeal to the pupil's interest, or an interest may be given them by explanation and suggestion of the teacher. * * *

35. Directions as to treatment of a subject are necessary, for training in expression should be training in thinking also. A pupil cannot be expected to know how to construct for himself. His whole habit of text-book study is opposed to this, and he must be guided to the use of his thinking power. In description he must be taught to select a point of view, to treat the various parts in a natural order, to describe each part completely before taking another. Where no natural order presents itself, a plan must be selected, or the pupil taught to arrange his material in proper relations, after writing as thoughts present themselves. Outlines of subjects should be presented in such variety as to allow individuality of treatment. A helpful plan is to suggest treatment of a similar subject by some good writer, not to be followed implicitly, but to stimulate thought. For the subject, a day at the circus, the pupil might be referred to the play in the first chapters of *Pendennis*, or for a winter scene to some description of autumn by John Burroughs. Details of preparation demand the most explicit directions.

36. The best way to secure neatness and care is to require uniformity of paper, to insist on margin at the left, on using but one side of the sheet, on properly indenting the paragraphs, and on folding in a particular manner with name and subject in proper place on the outside.

In correcting exercises the aim is helpful criticism by the teacher, and intelligent remodelling by the pupil. Both are equally important, unless the latter takes precedence. It should not be forgotten that criticism includes encouragement as well as fault-finding, since it is better not to correct everything at once than to discourage the pupil. The best results come from reading each essay with the pupil, explaining the reason for changes. Otherwise some simple method of suggesting changes is desirable, as symbols for common errors in syntax, spelling, capitals, punctuation, paragraphing, ambiguity, irrelevancy. In all cases changes should be made by the pupil, the exercises being re-written in whole or part if necessary. Certain errors of construction may be criticised with the class, and special attention should be given to the inflectional forms in our language, particularly the possessives, of nouns, the pronouns and strong verbs. The proper use of *will* and *shall*,

would and *should*, requires repeated explanations, as do similar verb forms, *lie* and *lay*, *sit* and *set*, and the double preterites of a few verbs. One should not insist on a minute nicety, as a substitute of a *polite* word for a homely but proper term; * * * niceties in punctuations only found in books on the subject. All these belong to a school-master's dialect, and would pervert rather than assist the child's English. The standard language is that of cultivated people, not that of the school-master. * * * Nor should criticism be merely verbal or syntactical. The unit of the essay is the paragraph, and to paragraph well is one of the best results attainable in any school. Pupils will at first make no paragraphs, or each sentence will stand alone. The relations of the parts of an object described to the divisions of the essay may be noticed, and rearrangement in paragraphs should be required when necessary. Other common mistakes are lengthy introductions and abrupt endings. The first is usually due to lack of plan, the second often to imperfect arrangement. Symmetry in form, even to the exclusion of unnecessary matter, though often neglected, is most important in its relation both to correct expression and to right thinking.

37. The forms of descriptive composition are so numerous that there need be no lack of variety. Description of objects, places, events within the pupil's experience, comes first but there is so great variety that interest will depend on the teacher's selection. It is essential that the subject be something real to the pupil, as a game of ball, a visit to a neighboring village, a manufacturing establishment, a week at the farm. Next come subjects less closely associated, selected with reference to sources of information. Composition will thus have a definite relation to reading good books and knowledge of literature. History, travel, biography, fiction, descriptive and narrative poetry will contribute. A definite reference to a particular chapter or article may be made with such subjects, as the siege of Leyden in Motley's Dutch Republic; Westminster Abbey in Irving; the chariot race in Ben Hur. If biography be chosen the pupil's thought should be directed to an impression of the man, not merely to dates and events. Subjects enlisting the imagination may be selected, as an imaginary journey, the life of a former time, and short stories of adventure or entertaining incident.

38. A most valuable form is the paraphrase or reproduction of another's ideas in the pupil's own words. Care should be taken that paraphrasing be not so minute as to prevent freedom of expression. Its main object is to test, not whether the pupil has obtained all the ideas of a poem or sketch—something unusual with readers of experience—

but whether he can state clearly what he has obtained. The minute prosing of poetry might prevent a right conception of poetic, as distinct from prose form, but this will not preclude the selection of such subjects as the story of Enoch Arden or Evangeline, of Portia in Merchant of Venice, or the trial of Warren Hastings in Macaulay. It will be well occasionally to require the reproduction of a story or sketch from a single reading by the teacher, as a training in attention. Another excellent exercise is to require pupils to write in class, upon some subject chosen beforehand usually, occasionally at the time. A definite time is allotted, as five or ten minutes, in which the pupil is asked to write clearly and concisely what he can. * * * Pupils may be allowed to contribute news items, reports of entertainments, of lectures, even book reviews, editorials, speeches, under direction and suggestion of the teacher. A school paper, read once a month, will encourage originality and show some surprisingly good results. * * * Bright pupils occasionally write good parodies or descriptive verses, and while the difference between verse and poetry should be clearly kept before them, some truer ideas of verse forms may be obtained than from the ordinary study of prosody. A form of composition too little regarded is letter writing, and some practical training in this belongs naturally to composition work. Good form without the extreme minuteness of books, neatness and care of details, may well claim a place and may help to revive an art more useful than any other, but sadly neglected many times.

ENGLISH LITERATURE.

39. The study of English literature has been much misapprehended. The greatest mistake is to suppose it a memory study of literary biography, with an occasional poem or fragment of prose. The root of the evil is in conceiving literary study as one of mere facts—of biography, history, philology. * * * A great poem or a prose masterpiece is the embodiment of a personality. That personality can be known only through the medium of sympathy. To develop this sympathy, this sensitiveness to the true and beautiful in a work of genius, is the aim of a true teacher. Only in this way is "conversing with the truth of things" possible. No process is more destructive to this development of sympathy than the dissecting method. Analysis has its place, but synthesis is even more necessary. The union of the soul with truth is not affected by the process of pulling sentences asunder limb by limb, and assorting the members in piles of verbs, nouns, phrases.

The spirit of literature is not susceptible to the scalpel of the pettifogging grammarian. * * * Nor is the study of literature the study of history. Much of it has little historic connection. Only those historic facts that have a necessary and vital connection with literature add materially to the study. This is true also because literature in its essence does not belong to single epochs. It is so true to man and nature that it is not "of an age," but for all time. The study in our schools does not require a complete or comprehensive view. It will scarcely be best to take anything before Shakespeare, and it would be quite impossible to take up all the representatives of a single age. The right thing is to develop a true appreciation of the best English prose and poetry.

40. It will be necessary then to study single works of the best writers. There is abundance of material in cheap editions, with or without notes. * * * In any case the pupil should study literature, not annotations, and judgment rather than memory should be enlisted always. Each lesson should be anticipated, points of interest indicated, relative value of notes, methods of preparation. Class work will vary with different teachers and at different times, but some suggestions from experience are made in the following:

41. *Reading.* The way to know Shakespeare is to read him, said Richard Grant White, and Dr. Johnson recommended reading without regard to minor details or difficulties. This applies in some sense to all literature. Every short poem should be read through at the start for completeness of view. This may be done out of school or partly in class, and there need be no fear that pupils will lose interest in further study. Besides, there should be much reading in class, even if it excludes some more technical study. Such reading is not to be elocutionary, but "clean, clear, simple, quiet voicing of sense and meaning." This is the method of many most eminent teachers in our country, and it will prove itself a rare means towards accomplishing the great object of literature in education, "to open the mind, to correct, to refine it."

42. *Study of Personality.* Literary study is on an author's "embodiment of thought," of his personality, his clearness of conception, his skill in narration and illustration, his imaginative power, his mental grasp. What is his idea of duty and conduct, of human society, government, religion? How does he interpret nature? Are his men and women real flesh and blood? Is his view of life elevating? * * This vital life of the writer may not be revealed by a single work. Others may be suggested to be read in class or by pupils at home; so that while a single production is studied systematically, others will be

read appreciatively, helping to reveal the writer's characteristic attitude.

43. *Character Study.* Many poems not strictly dramatic lend themselves to this study by exhibiting personal action and play of motive in some interesting phase. But character study belongs to the drama preeminently, and to Shakespeare as the great dramatist. Various plans will lend interest. A principal character may be assigned each student, for special study in reference to several important questions. In this it is important that the pupil's judgment be allowed ample freedom. * * * Interest in a single character may lead some to underestimate the importance of others and this must be corrected by the study of the drama as a whole.

44. *The Ethical Element.* Much will be beyond pupils of any school, but the vital connection of great thought and great action, of high aspiration and high endeavor, of right ideals and right conduct, will suggest something more than pleasure as the end of literary study. The suggestion is of something far different from moralizing, something more real and lasting—an enthusiasm for beauty in life, as in art for fair forms, as for harmony of numbers. The method should be unobtrusive, and is best suggested by Arnold, the great teacher, in the aim expressed in his history, "to be of use to the cause without actually bringing it forward."

45. *Nature Study.* We attribute to the poet a peculiarly vivid appreciation of nature, and we ought to gain from him a keener observation of the world about us. The poet emphasizes effects by representing nature in intimate sympathy with man. The interpretation of nature meets us in the poets, and the suggestion of it will be appreciated by pupils, when it cannot be studied completely.

46. *Textual Study.* The study of syntax and diction is not of first importance, but it has a place. How does a poem differ from prose? A pupil's attention will be attracted by words new to him or peculiar in meaning. Poetry preserves old forms, obsolete and rare words and uncommon constructions. A play of Shakespeare will show peculiarities of Elizabethan English. These require simple explanation, and will lead to the use of the dictionary as a standard for comparison. The life of words—not scientific etymology—will interest pupils if the study is made suggestive, rather than exhaustive, by attractive word studies. Skeat's *Etymological Dictionary* (student's series) and Trench's *Study of Words* (new edition), most stimulating books, are in reach of every teacher. * * * Textual study should be used so far as it is a healthy stimulus and a corrective of inaccurate understanding. The old method of parsing and analyzing a book of Para-

dise Lost may have been beneficial, but it kept pupils from appreciating the great English epic.

47. *Literary form.* This ought not to suggest one of the dreariest subjects—prosody. Simple verse forms of poems actually read ought not to be uninteresting. The pupil should see how the rhythmical accent emphasizes the thought, and indicates the pronunciation of an unknown word. The nature of the lyric as distinct from narrative or dramatic, the constitution of the sonnet, the elegy, the epic, form proper studies. Alliteration and various forms of rhyme may be pointed out, but not as the essentials of poetic form. Poetry is the *concrete* embodiment of thought and feeling. Its language is not direct but figurative. The study of this figurative language, without technical details, is better than text-book rhetoric. Poetry has a language of its own, becoming a natural language to the reader only by continued acquaintance. Minute analysis robs it of some of its most delicate charms. We should seek to comprehend poetic speech, in all its compactness and concreteness of expression, without the medium of prose.

48. *Prose.* This is more often neglected in school courses than poetry. It is more difficult to teach it well, owing to its greater diffusiveness and the less obtrusive charm of its construction. But great efforts should be made to create a taste for pure prose for its practical value, and to preclude pleasure in weak and sensational forms. * * * A habit of reading may be soon begun, taste cultivated, and the pupil become capable of selecting with appreciation only the best books. Young people will become interested first of all in fiction. On account of length, tales and sketches will be first used. These will lead to longer works, as those of Scott and Dickens, but fiction alone should not engross attention. Interest may be easily excited in travels, in important historical epochs, in biography, eloquence, essays. * * * While interesting books are selected always, preference should be given to those that belong enduringly to our literature. If contemporary books alone are used, most pupils will never know the treasures of the past.

49. A small body of prose can be read in class. Selections should stimulate interest in reading, not as a task but from choice. Pupils need help over the uninteresting places. * * * A teacher may indicate portions to be omitted, sum up others, and start the reader where he will be certain to go on. Selections may be made of prose and poetry treating the same subjects. * * * Class work in prose will differ somewhat from that in poetry, because of fewer peculiarities of expression; but there will be new words, embellishments as in poetry, and many allusions to be explained. Examples will constantly occur illustrating

principles in rhetoric. Practice in writing should go hand in hand with all work in literature. The number of subjects will allow each to choose those of special interest. * * * The pupil should keep permanently something from each work read. Passages may be memorized by all, and each pupil may select lines of special interest to himself. These will serve as touch-stones to test the value of all expression. The pupil should record such passages in a book for that purpose, thus making an invaluable collection, and one that may furnish many a thought not wholly devoid of vitality in his life.

50. The best teaching is that which is wisely suggestive. Many poets, not adapted to school use, have written single poems of great interest to young people. * * * Similarly suggestive are the celebration of authors' birthdays, and programs of patriotic poems, poems of the sea, of interesting places, of notable historical events. This is studying literature from the outside, but it has its advantages.

51. The suggestion of many methods would be confusing if it were necessary to use a considerable number at one time. Every good teacher knows no plan is likely to be less beneficial. Teacher and pupil should have a definite aim in the study of each work, and the aim should not be manifold. At one time the aim may be textual study, at another rhetoric, at another poetic form, besides always the spirit, the personality, the central idea. The work may be divided into parts in which special forms of study are taken up. But in all cases the definite aim systematically carried out, while not preventing proper variety and incidental treatment of many subjects, will eventually give the best results.

52. English literature, as mentioned in the course, may be considered from a somewhat different point of view. It comes after the pupil has made an acquaintance with the history of his own nation and that of the world, after he has written and read, has studied rhetoric and civics, and has acquired that maturity of mind which will enable him to appreciate literature as a study; yet, even in this last year, it is not desirable that much time should be given to study about literature. Some knowledge of its history is essential; some knowledge of the different periods and the characteristics of each should be acquired, but each period should be studied in connection with the

works of the men who gave the characteristic tone to that epoch.

53. Before Chaucer, there is little that can be found profitable reading, and to him little time should be given. But the history of the times, the growth of the language and the strange mixture of elements that came in to form it, will prove profitable and interesting and will relate themselves closely to the historical studies of previous years. Later periods will not be fully understood unless the influence that continental nations exerted upon the English be studied. Though the tongue was formed and English was the language of its writers, yet the Italians, upon Shakespeare and Milton, and the French, upon Dryden and Pope, produced a most profound effect. Here again the history of literature relates itself to the history of nations. So that this year's study may be made a chain which binds together many of the isolated incidents with which the pupils have been previously acquainted. If a large portion of the reading done in the several grades has been from the authors of modern times, it will now be possible to devote a larger portion of this year to the writers of middle English.

LITERARY READINGS.

54. Appended are two lists of books which are recommended for use under the title of "Literary Readings" in the several courses. The first is for those schools in which the three years' course only is used. These lists should not be construed as arbitrary, for in many cases material is so plentiful that it is possible that other good books will be more accessible. However, no course in reading has been recommended as preparatory to collegiate institutions during late years that has not included most of the titles mentioned below. It will be found that the four years' list includes the works which the advanced requirements of the state university make necessary in future

preparation. An attempt has been made to balance the work well and to arrange the books somewhat in order of difficulty, with the idea that they will, in the year in which they are placed, be interesting to the pupil reading them. It is quite possible that many of the selections and some of the books have been read in the grades below and that it will not now be desirable to repeat them. Under such circumstances, a wise substitution may properly be made.

55. These are all books which it is well to read in class with the teacher. A list of books for reading at home should be made. By occasional papers from the pupils or by conversation with them, the principal may obtain definite knowledge as to the quantity and value of the reading that his students are doing upon his suggestion.

56. It is intended that the reading should be continuous throughout the course. This does not imply daily recitation, but that possibly two or three times a week, as circumstances may justify, the class shall meet and study together some good English classic. It may not at all times be convenient to separate the classes of the different years. It may be found that all the pupils of the school can be grouped in one or two sections without special reference to their position in the other studies of the course for it frequently happens that all the poor readers are not in the lowest class. By the time of their graduation, however, high school pupils should have an acquaintance with the books mentioned in the list.

Elsewhere under the title of "English Literature" (39, 41, 43, 44, 46, 47, 51), will be found some valuable suggestions which are applicable, though possibly in a lesser degree, to this reading work.

Pancoast's *Introduction to English Literature* (Henry Holt & Co.) is an admirable working handbook for teachers and students. It is an expansion of the historical and critical portions of the author's *Representative English Literature*.

57. THREE YEARS' COURSE IN LITERARY READINGS.

FIRST YEAR.

The Great Stone Face—My Visit to Niagara,	<i>Hawthorne.</i>
Grandmother's Story—The Chambered Nautilus,	<i>Holmes.</i>
A Christmas Carol—The Cricket on the Hearth,	<i>Dickens.</i>
An Elegy in a Country Churchyard,	<i>Gray.</i>

SECOND YEAR.

The Deserted Village—The Traveler,	<i>Goldsmith.</i>
The Sir Roger de Coverley Papers,	<i>Addison and Steele.</i>
The Merchant of Venice,	<i>Shakespeare.</i>
To a Mouse—To a Mountain Daisy—For 'a that,	<i>Burns.</i>
Enoch Arden,	<i>Tennyson.</i>

THIRD YEAR.

Vision of Sir Launfal—Books and Libraries,	<i>Lowell.</i>
Gettysburg Speech,	<i>Lincoln.</i>
Julius Cæsar,	<i>Shakespeare.</i>
Second Essay on the Earl of Chatham,	<i>Macaulay.</i>

58. FOUR YEARS' COURSE IN LITERARY READINGS.

The first and second years are identical with those of the Three Years' Course.

THIRD YEAR.

Poor Richard's Almanac,	<i>Franklin.</i>
Julius Cæsar,	<i>Shakespeare.</i>
Vision of Sir Launfal—Books and Libraries,	<i>Lowell.</i>
Gettysburg Speech,	<i>Lincoln.</i>

FOURTH YEAR.

The First Bunker Hill Oration,	<i>Webster.</i>
The Second Essay on the Earl of Chatham,	<i>Macaulay.</i>
Behavior, or the American Scholar,	<i>Emerson.</i>
L'Allegro, Il Penseroso, Comus,	<i>Milton.</i>

ENGLISH GRAMMAR.

59. The justification for this branch in a high school course of study is its utility in promoting skill and elegance in the use of the mother tongue. Coming, as we assume pupils do, well grounded in the elementary principles of composition, there should be offered them an opportunity for the mastery of the important rules and principles of technical grammar. The aim in the instruction should be to secure a thorough knowledge of these principles and their application, without descending into the petty details with which our text-books are crowded. When teachers learn to discriminate in the use of the material that the books present, pupils will gain clear ideas in place of the confusion of half-related thoughts that now fill their minds. English is not a dead language whose grammar is fixed and unchangeable, but a living, growing tongue. Rules should be taught inductively, and then applied until their use is wholly clear. If the rules are comprehended and can be applied, the observations and exceptions will take care of themselves. Much of the minute classification in the grammars and many of the fine distinctions are for reference only and any attempt to learn them serves but to befog the mind and conceal essential ideas. Peculiar constructions, knotty problems in analysis and fine discriminations are usually uncalled for.

60. Teach the pupil to recognize in common constructions the parts of speech and to know their principal properties. Teach him to consider the structure of his sentences and to justify their arrangement. Do this in practice and see to it that the pupil understands the meaning of every rule he is asked to learn. The book presents the rule bolstered by a few examples. It is the teacher's duty to see that the rule appears in new lights, that abundant new illustrations are furnished and to continue his work not only till the pupil can use the rule, but until he does use it regularly and intelligently.

61. In parsing use no set formula for every word in the order of its appearance till tiresome iteration wearies and disgusts the pupil. But parse solely for the purpose of seeing the word in all its relations to other words in the sentence. Analyze logically first, that the meaning may be clear, and then grammatically till words, phrases and clauses take the position and rank the author intended. Be careful to select the best examples to be found in the wide field of literature. Written parsing and analysis are valuable if not carried to the point where they seem a drudgery. Grammar would be interesting were it not for its apparent obscurity and the wearisome labor connected with it. Diagram occasionally, as a variation from regular routine, but the diagram is not an end and many a pupil has been able to put his refractory parts of speech into the pens so ably built without any idea of the real meaning of his labor. Real sentential analysis should be as fascinating as the solution of a problem in mathematics and it will become so if we lay aside the refinements and subtleties of the too critical method together with the monotony and drudgery of useless repetitions. That the study of a foreign language helps the pupil to a readier and clearer understanding of his mother tongue is evidenced by the greater facility with which Latin students master English grammar.

63. Finally, the term is too short and it comes too early in the course to give the best results, but the objections to placing it elsewhere seem to be insurmountable. Its intimate relation to Composition will justify its continuance farther than the limits of the term and a good teacher will find abundant opportunities throughout the course in all branches to see that the laws are not forgotten nor suffered to fall into disuse.

RHETORIC.

64. The purpose of high school instruction in Rhetoric should be to put the pupil in possession of an art—the art of expressing himself in writing clearly, forcibly, and elegantly. But every art is acquired by practice, and practice is therefore of the first importance at every stage of the instruction. Rules and directions are of no value save as they serve to guide practice, and to learn them without at the same time applying them in abundant exercises is to waste both time and energy. * * * * * The most important caution is to avoid trying to carry the work too far. High schools ought not to attempt an extended study of Rhetoric. Their aim should be to fix firmly in the habits of the pupils the most essential practical principles of effective composition, leaving the refinements of criticism for subsequent study.

Any good text may be followed, but the real aim of the work should be ever kept in mind.

65. For a term's work in Rhetoric following the drill whose results are summarized in a previous paragraph the following outline may be suggested.

66. THE AIM.

I. To have pupils understand the construction of sentences, paragraphs, and themes.

II. To exercise the pupil in composition by instruction:

1. As to selection of subject.
2. As to collection of material.
3. As to mode of inventing and distributing matter in a clear and logical form.

III. To make an elementary study of style through practical exercises in clearness, imagery and energy.

IV. To prepare pupils to study models in connection with the various rhetorical principles and forms, that they may see a relation between practice and precept.

67. THE WORK.

I. In Invention:

1. Construction of simple and compound sentences and of complex sentences with adjective, adverbial, and noun clauses.
2. Formation of paragraphs.
3. Analysis of essay subjects.
4. Preparation of frameworks for essays.

II. In Qualities of Style:

1. Clearness—
 - (a) As to mastery of subject.
 - (b) As to use of words, whether reputable, national, and present.
2. Figures of Speech—the simile, metaphor, personification, antithesis, metonymy, etc.
3. Energy.
4. Elegance.

68. REQUIREMENTS.

A pupil should be able

- (a) to make a framework of an essay within his powers;
- (b) to begin to forming the habit of canvassing a subject, of reading reflectively upon it, of investigating it systematically, of extracting essential facts and setting them forth effectively;
- (c) to develop his theme;
- (d) to make a fair rhetorical analysis of a passage from a standard author, indicating all the elements of clearness, imagery, and energy.

LATIN.

69. The course should include four books of Cæsar, which should be completed by the end of the second year, seven orations of Cicero and six books of Virgil. If Cicero be begun before Virgil the latter might be read after four orations and then be followed by the remaining three orations.

70. For the first work in Latin it is desirable to place in the hands of pupils as concise and simple a statement of the first principles as possible. Therefore great care should be used in the selection of a text, of which there are many good ones.

PRONUNCIATION.

71. The correctness of the pupil's pronunciation of Latin will depend upon the accuracy of the teacher's pronunciation, quite as much as in the study of French or German. It is too often true that the only attention given to this subject is the memorizing of the rule that the penult is accented, if long, otherwise the anti-penult receives the accent. Even this rule is constantly violated in practice and accents such *a' micus*, *eff'er' o*, *an' tiquus*, etc., are commonly heard. Not only should most careful and persevering attention be paid to penultimate quantity, but the quantity of *every* vowel, when it can be ascertained, should be observed in pronunciation.

FORMS.

72. The necessity of a thorough acquaintance with the forms of the language is so obvious that it would seem superfluous to call attention to it here. Yet the fact is that no part of Latin preparation is more defective than this. The forms as contained in the lesson book or as referred to in the grammar must be mastered absolutely. Well-directed memorizing, followed by written exercises, dictation, oral practice and frequent reviews, ought to produce good results.

INTRODUCTION TO READING.

73. A good class with a good teacher ought to finish a lesson-book in time to do some work preparatory to Cæsar in the first year; for in most cases the transition from an elementary book to Cæsar is too abrupt. If Cæsar is to be read immediately the teacher must exercise great diligence in anticipating the difficulties of the advance lesson and in striving by every means to make smooth the somewhat uneven path. The second book of Cæsar is easier than the first. The conference report to the "Committee of Ten" recommends the use of some easy reading such as *Gradatim*, *Eutropius* or *Viri Romae*, for this transition period.

74. The purpose of this study, as pursued in the high school, is not to make pupils skillful in writing Latin, but to enable them by use to make the forms and syntax of the language more completely their own. The composition of a single Latin sentence, illustrating certain constructions or idioms of the language, will do more to impress these upon the mind of the pupil than half a dozen parsing exercises involving the same points. Latin composition may be pursued by devoting one or more exercises of each week exclusively to this work; or, by means of daily exercises based upon limited portions of the Latin read in class.

75. This method has the advantage of securing a more painstaking daily review than can usually be obtained otherwise. It does not, however, cover the ground completely; for many special grammatical pit-falls do not occur often in the text of Cæsar or Cicero. Special drill, therefore, is required in exceptional cases. The impersonal construction in the passive of verbs followed by the dative, conditional sentences in indirect discourse, the indicative in the conclusion of conditions contrary to fact with verbs of duty, necessity, etc., and the periphrastic forms are constructions of the kind referred to. This method of teaching Latin composition will require untiring

zeal on the part of the teacher and great economy of time in the class-room, but it will be rewarded usually by great interest.

76. In all instruction in Latin the pupil should be made to realize that the order of the Latin sentence is flexible, subject to considerations of emphasis and euphony. What the pupil positively learns about Latin order must depend on what the teacher knows or feels concerning it, for it cannot be learned from rules. Some good hints for the teacher are contained in the revised Latin Grammar of Allen and Greenough, p. 386 h.

TRANSLATION.

77. An exact and idiomatic rendering into English of the thought of a difficult Latin sentence is perhaps the chief visible result of Latin instruction, and teachers who are not working to secure that end have in a measure lost sight of the goal. Literal translations are often indispensable by way of explanation and for purposes of illustration, but if they are not at the same time idiomatic, they should always be accompanied by idiomatic renderings. "Translation English" is not only painful to hear but it destroys the linguistic sensibility which all instruction should foster and gives most grotesque conceptions of Roman literature.

Not only should good English be insisted on always, but some effort, varying with the maturity of the class or of the individual pupil, should be made to produce the style of the author translated. The succession of Latin authors read in school is all that could be wished in this regard. The straightforward narrative style of Caesar may be reproduced without difficulty by pupils who have not read much in English. In connection with Cicero, translations may be improved and made more spirited by bringing out some characteristics of oratorical English, with examples from speeches of American orators. Milton and Spenser studied in the high school ought to contribute to better translations in Virgil.

FORM AND SUBJECT MATTER.

78. The Latin authors read in the high school afford a considerable field for the study of literary form and historical events. This should not be neglected. For example, in Cicero the pupil should be required to analyze the argument of the speeches read and thus to obtain some conception of the form of an ancient oration. It is a good plan to call on some member of the class each day to give orally a synopsis of the review or advance lesson, and at the conclusion of any work the argument should be carefully read, so that each pupil shall carry away a definite idea of the work as a whole, both in respect to form and contents. Every high school library should be provided with a copy of Froide's *Caesar*, Trollope's *Cicero* and Sel-lar's *Virgil* (Macmillan)—the last perhaps more especially for the teacher. By judicious reference to them much can be done to stimulate and maintain a living interest in the men whose works are read.

79. Two pamphlets by Professor William Gardner Hale entitled "*Aims and Methods of Classical Study*," and "*The Art of Reading Latin*" (Ginn & Co.), will be found stimulating and suggestive. *The Art of Reading Latin* sets forth admirably the only natural and rational method of studying a Latin sentence, and even if the teacher does not attempt to put into practice all the suggestions there given, a careful study of the paper will do much to give him a truer conception of the way in which Latin is to be read and therefore to be taught.

GERMAN.

80. The time allotted to German in the high schools of this state is now two years. This time is sufficient for the following course of study:

1. Correct pronunciation.
2. The *essentials* of grammar and the ability to apply them.
3. Acquisition of a vocabulary sufficient to enable pupils to read and translate the reading lessons in any standard reader correctly and understandingly.
4. Practice in the oral use of German *in connection with the reading lessons*.
5. The memorizing of some German poems.
6. The careful study of at least two plays (*Der Neffe als Onkel, Minna von Barnhelm, Die Journalisten, etc.*)

PRONUNCIATION.

81. i is pronounced like i in it and like the finishing sound of e in he; e, long, similar to English ay (pay), short, like English e (set). There is no difference whatever between "short e" and "short ae;" ch (ich) with soft palatal sound, not ish nor ik (Kir-che=church; Kir-sche=cherry); final g as a continuant ch; j distinctly buzzed y in yes; v=f; w=v in very; z=ts (the t and the s closely connected, but both pronounced strongly and distinctly); initial sp and st=schp and scht, in the middle and at the end of words=sp and st; th always =t. All final syllables must be clearly pronounced. Words mispronounced should be analyzed by sound and not by letter. Ex.—Geldbeutel is mispronounced. Teacher: Give the first syllable; the second; how is eu pronounced? How do you pronounce the second syllable? the third? read the whole word again! how many words? first? second? translate "Beutel!" (Reference book: Wm. Viëtor, *German Pronunciation*, B. Westermann & Co., New York.)

GRAMMAR.

82. The following points of grammar should be emphasized during the first and second terms of the first year. The meaning of the different cases and their correspondence with the English; the declensions of nouns, with the definite and indefinite articles and words declined like them, of nouns with qualifying adjectives, with and without the articles (or words declined like them), of the personal pronouns; the comparison of adjectives; principal parts and conjugations of verbs; subjunctive and indirect discourse; the prepositions; order in sentences; and the leading principles of syntax.

83. Special attention should be called to the following: die guten, and diese, jene, meine, etc., solche, welche, alle, keine guten Bücher; and gute, and einige, etliche, wenige, manche, viele, einzelne, mehrere, andere, verschiedene gute Bücher; der (ein) Franzose, Däne, etc., but der Deutsche, ein Deutscher, wir (uns) Deutsche, etc. The pupils should first understand the English should and would, shall and will, may and can, etc., on and upon, in and into, etc., the modal auxiliaries; the difference between "he was here" and "if he were here," etc., and then the German equivalent should be explained and drilled. The ideas of place and motion, etc., should be developed and then practiced; in answer to the questions whither? how long? until when? the accusative, in answer to the question where? when? the dative is used after certain prepositions; when motion is conceived as having direction, a starting point, or a goal "sein," when only activity within a given space is thought of "haben" is used. The subjunctive is the mood of unreality, contingency, possibility; after glauben, meinen, denken, etc., behaupten, sagen, lehren, etc., when used in the third person present and the subjunctive is necessary, er fragte mich, wo sie wohne (not: wohnte), gewohnt habe, wohnen werde, etc.; er fragte mich, ob wir mit ihm gingen, etc).

84. (Reference books: Brandt, *Grammar of the German*

Language, Boston, Allyn & Bacon; Lyon, *Handbuch der Deutschen Sprache*, Leipzig; Teubner; Heyse, *Deutsche Grammatik*, Hanover, Hahn.)

VOCABULARY.

85. Pupils should commit words to memory. All of these they should have seen as an integral part of a sentence. They should learn the nominative singular and plural of the nouns, and the principal parts of the irregular verbs. Attention should now and then be called to cognate words in English, to loan-words like Brief, Kaiser (Cæsar), schreiben, (reißen, ritzen), etc.; to derivatives in er, ner, ler: Raub, Burg, malen, wandern, etc.; to synonyms Hitze, Feuer, Wärme, etc.

READER.

86. The center of the work is the reader. The teacher should read, or translate, or explain, or give beforehand a brief synopsis of the reading lesson to the pupils. The reading should always be with clear pronunciation, with distinct articulation, and with sympathy and enthusiasm. Good reading is half explaining; where expression is wanting, there also impression fails. Nothing should be explained that the pupils can work out for themselves. Let the explanation be very brief, to the point and interesting. Occasionally a lesson in etymology is of great interest; (trink-e, trank, ge-trunken, trinken, ab, an, auf, aus, be, durch, er, or fort, etc., trinken. Trinker, Wasser, Wein, etc., Trinker, trinkbar, Trinkbecher, -bude, -gefährte, -gefäß, -geld, -horn, -kanne, -lied, -lust, etc. Trank, Götter, Opfer, Zaubertrank, Getränk; tränken: ein, ertränken, Tränke, Trunk, Schlaf, Früh, Labetrunk; trinken: be, freude, sieges, wonnetrunken; Trunkenheit, Siegestrunkenheit, etc.) Attention should now and then be called to the different meanings of words. (Hof: Der Hof befindet sich an dem Hause. Der Verschwender wird zuletzt von Haus und Hof getrieben. Der Fuerst, seine Familie und seine Beamten bilden den Hof. Der Edelknabe musste an

dem Hofe eines Ritters höfische Sitten lernen. Höfisch heisst jetzt hübsch. Grüsse höflich! Höflichkeit ziert den Menschen, etc. Sehen: Der Mann sieht. Nach dem Essen, nach den Kindern sehen. Die Fenster der Wohnung sehen nach Süden. Diese That sieht dir gar nicht ähnlich. Du wirst dein blaues Wunder sehen. Sich satt sehen. Er macht ein freundliches Gesicht, etc. Fein: Der Faden ist fein. Eine feine Naht, ein feiner Regen, feiner Geschmack, ein feiner Mann, feines Gehör; es ist nichts so fein gesponnen, etc.). Pupils should read the lesson aloud at home, and commit every new word to memory. In the recitation room, the teacher should first hear the vocabulary and then the pupils should read and translate the lesson. They should read slowly and distinctly; every sound and every syllable should be clearly heard. If a mistake is made in reading, not the teacher but the pupil should correct it, or, if he can not do it, another pupil. After having read and translated the lesson, questions in German about the contents of the lesson should be asked. These should be clear, concise and definite (wer, was, wie, wo, warum, wem, wen? etc., should be used as often as possible). All "yes or no" questions and answers are worthless. The answer must always be given in a complete German sentence distinctly and correctly accented. The "promiscuous method" of calling on pupils to recite is always the best.

87. In the reading lesson, an analysis of the sentences, and a review of the main grammatical points is necessary. For instance: the story "Der Wolf und der Mensch" is read. Wem erzählte der Fuchs, etc.? What case? Why? Wohin brachte er den Wolf? What case? Why? Wo war jetzt der Wolf? Wen brachte der Fuchs auf den Weg? Infinitive of brachte? principal parts? use the sentence in the present perfect, future, etc. tense? Wer kam zuerst? What case? Why? Use the indefinite article! Translate: Our (my, his) old discharged soldiers, etc., etc. (Reference book: *Kehr, Theoretische-praktische Anweisung zur Behandlung deutscher Lesestücke.* Gotha, Thienemann.)

MEMORIZING POEMS.

88. Every pupil should be able to recite at the end of the course from nine to twelve poems intelligently and with expression. These poems must be prepared in class by means of repeated, careful, and thoughtful reading. The following are recommended: *Die Einkehr*, *Der gute Kamerad*, *Siegfrieds Schwert*, *Lorelei*, *Gefunden*, *De kleine Hydriot*, *Der blinde König*, *Das Lied vom braven Mann*, *Der alte Barbarossa*, *Erlkönig*, *Der Sänger*, *Der Lotse*, *Die Auswanderer*, *Des Sängers Fluch*, *Die Bürgerschaft*. In several high schools there are classes of

GERMAN-AMERICANS.

89. For those that speak German at home, the following course of study is recommended:

1. Acquaintance with the most essential rules of syntax.
2. Practice in correct oral and written language, and easy exercises in composition.
3. Introduction into German literature of the classical period.
4. Memorizing of selected ballads and memory gems.

Special consideration should be paid to etymology and the meaning of words.

SCIENCE.

90. The science work of the high schools presents two phases to the principal. In the first place it may be a study of text-books, illustrated by such simple material as is readily found at hand and made pertinent and clear by frequent reference to the common experiences of every day life. Again, it may be scientific teaching, in which case its purpose first of all is to train pupils to see, to describe what they see as they see it, and then to reflect on what they have seen. The pupils may observe and experiment for themselves and from the results of these experiments they may draw the conclusion which reason seems to warrant. If science teaching is to give mental discipline and power, the pupil must be taught by being brought directly into contact with things and led to obtain his knowledge of facts from careful observation of nature and natural phenomena. The text-book must be kept in the background and become merely an aid and not the source of knowledge. Pupils should be required to draw what they see, and not merely to copy the diagrams of the text-book.

91. A definite plan as to the teaching of certain branches is suggested, that progress throughout the state, so far as practicable, may be uniform.

Botany and physics offer the best possible opportunities for science teaching in its second phase. The study of botany trains the faculty of observation. The study of physics develops its own peculiar style of reasoning from the data obtained by experiments. Accordingly the work which may be done in those two branches is outlined in considerable detail, while in the others, viz.: physical geography and physiology, the better class of text-books may prove a sufficient guide. The almost universal opin-

ion of specialists in the several schools to which the graduates of high schools ultimately find their way, is that it is incomparably better to teach one or two sciences broadly and well than to try to give instruction in many lines. The pupil who is to have no further education than that afforded by the high schools, will unquestionably acquire a more scientific habit of thought and will receive greater benefit by confining his attention to a limited range of subjects. There are few schools in the state which can profitably take more than the four branches named.

PHYSICAL GEOGRAPHY.

In teaching this subject the instructor must keep in mind certain conditions and limitations which surround the pupil:

93. This is the only study in the first year's course which makes any considerable demand on the pupil's ability to read; and, as a rule, pupils in this grade have not yet learned to read, i. e., to get thoughts easily and accurately from the printed page. Hence the text-book assignments in this branch must be dealt with as reading lessons for thought analysis until the habit of seeking first to get the author's exact meaning is firmly fixed. Mere memorizing of the text should not be tolerated, nor is much questioning necessary in recitation. The topical method of recitation is especially suited to this subject, and pupils should be trained to give the substance of whole paragraphs in words of their own choice.

94. Since this is the first study in the course which has to do with natural science, it will be necessary to introduce certain topics by preparatory lessons in elementary physics, in order that the causes of phenomena may be made plain. Thus a few lessons on heat, illustrated by simple experiments, its transmission and its effect on gases should precede the study of winds and precipitation.

95. To obtain the best results considerable field work should be done. Examples of erosion, deposition of silt, effects of drainage, causes which determine direction of streams, the relation of soil and drainage to vegetation, will be better understood if studied on a small scale from natural objects.

BOTANY.

96. The radical defect of the older teaching lay in the failure to *study the plants themselves*; in the failure to *treat them as living organisms*; and in the failure to *take into account the existence of other plants than the flowering ones*. Teachers who are to be up to the times should therefore give special heed to these three points. No plan or outline can be given which will be universally applicable. Modify the suggestions here given in accordance with your own attainments and the needs of your pupils, but in all cases hold fast to these three cardinal principles.

ROOM AND APPARATUS.

97. If possible a room should be furnished with a sufficient number of common kitchen tables (those with unfinished tops are best), at which two students can work comfortably, and even four if crowded. The more windows the better.

98. The apparatus required is simple. Simple lenses with some device for supporting them while the hands are used in dissecting are needed. The bank-note lenses, which are mounted on three legs, will serve the purpose but they are usually of low power. An effective and low priced dissecting stand, which is in use in the University of Wisconsin, can be procured from the Bausch & Lomb Optical Co., Rochester, N. Y. (Stand T, of their catalogue. List price \$2.50 with 25 per cent. discount.)

99. A deep individual butter dish and a shallow pan about 5 × 10 inches are necessary for examining specimens in water. Each student should have a pair of nee-

dles (No. 6, "sharp") with the eye-end driven into soft pine handles. This can be done by holding the needle with a pair of pliers and forcing it in. The pupil should be required to provide himself with a *sharp*-bladed pen knife, a rarer article than might be supposed. Better work in cutting thin sections can be done with a dissecting scalpel or razor.

HOW TO GET MATERIAL.

100. Begin with a study of the flowering plants. There will be room for the exercise of some ingenuity in getting pupils to provide proper material for study by raising some and collecting some. Lima beans, sun flowers and corn can be grown in pots or boxes; window gardens, greenhouses and provision stores can be drawn upon until the spring opens. But it is better to have material collected in the summer and preserved in alcohol or by drying. To remove brittleness and prevent drying, material preserved in alcohol may be transferred directly to water and studied therein. If that which has been dried is to be dissected, it should be brought to its original form by soaking for an hour or so in hot water.

HOW TO BEGIN.

101. It matters little what part is selected for a beginning. If the study commences in winter, the shoots of trees, two or more feet long, may be used. Select a tree in which the scars left by the fall of the foliage, leaves and bud scales of the preceding season are quite conspicuous, such as the cottonwood, poplar, hickory or horse-chestnut. Set the students at work to examine these before they have been assigned any study in the book. Have them examine all the markings they can find; compare the buds; study the relation between the buds and the scars; determine the extent of the preceding season's growth and of the season before that. When as much as possible of the external anatomy has been seen, let them *carefully* dissect the buds, studying the nature and shape of the scales; the character

of their surfaces, whether hairy or resinous; the young foliage leaves for the next season; the young stem, comparing the shoot for the coming season with last season's growth, noting the differences and resemblances. This dissection should be made both by tearing off the parts, and by cutting thin slices crossways and lengthways with the knife. At the outset much, indeed most, of the dissection will be chiefly remarkable for haste and consequent carelessness. Insist on slow, painstaking study from the first.

102. When the students have seen everything that they think there is to be seen, let them write a description of what they have observed. They should be asked to make this description terse, using their own language and not resorting to the book for terms. The teacher should then examine these descriptions, in which he will doubtless find much omitted. Make the study of the same shoot the subject of the next class exercise, in which point out each feature that ought to be examined, giving sufficient time for the inspection of each part. Endeavor to show that for the circumlocutions in their descriptions there are often single words (technical terms). The pupils will thus come to know something of the method of accurate and thorough observation, and will discover that technical terms are not hard words invented for their discomfiture but are short ways of expressing the ideas gained.

103. At the close of this exercise call upon each pupil to draw carefully a portion of the shoot enlarged, showing as many of the facts observed as possible. Drawings should also be made of the dissected parts. Here the teacher may be met by the objection on the part of the pupils that they cannot draw; but as that is only another way of saying that they cannot see accurately, he will have to insist upon their doing the best they can, with the assurance that as the power of accurate observation increases the accuracy of the drawings will increase in the same ratio. He should be able to lead here as well as at other difficult places. Happy he if he be not a blind leader of the blind.

104. After studying several other shoots in the same way, and not till then, assign the lesson in the text on buds and branching. Supplement this by talks about the functions of the parts, the causes of the markings, etc.; or by readings to the class; or require reading by members of the class on the topics studied. For example, on buds and branches, see Sachs' *Physiology of Plants*, pp. 41-43; Goodale's *Physiological Botany*, pp. 444-445; Gray's *Structural Botany*, Newell's *Outlines*, Lesson 4 and Reader I.

105. The points specially emphasized here are: 1. Study of the plants themselves. 2. Drawing, and describing observations. 3. The study of the text-book. 4. Supplementary readings, particularly as to the function of the parts studied.

TOPICS FOR FURTHER STUDY.

106. Following this method with each organ, the following topics are suggested:

Underground stems: Potato (tuber); onion (bulb); cyclamen or Indian turnip (corm).

Structure of stems: Cut thin slices of both herbaceous and woody stems and examine in water. Bean, sunflower, geranium, hyacinth, corn (or any grass) and twigs of forest trees may be used.

Leaves: Structure of blade and petiole; forms of stipules; character of venation, particularly with reference to function of veins. Reference readings on the function of foliage leaves are particularly important. Study of the unfolding leaves in spring is specially desirable.

Flowers: Parts; forms; adaptation to insect visits, flower clusters, etc. It is not necessary here to enter into details as to these parts, since they are treated fully and have always received over much attention because of their importance to classification.

107. Let it be remembered in the study of all these topics that it is not a memorizing of the technical terms of descriptive botany that is wanted, but a study of structure of the parts with reference to function. Insist on the pu-

pil's constantly asking himself, "What is this for?" As to technical terms, if they are not acquired as a convenience they are should not be acquired.

108. For assistance in guiding the observations of pupils see Spalding's *Introduction to Botany* (D. C. Heath & Co.) Newell's *Outlines of Lessons in Botany* (Ginn & Co., Chicago, Parts I and II, \$1.45); also Hall's *Botany for Public Schools* (Sherwood & Co., Chicago). The latter introduces an unnecessary number of terms and teachers must beware of the physiology incidentally taught. The preface is especially commended to attention.

109. Some schools have divided botanical work so as to have six weeks of the time come in the autumn. In such schools it is suggested that the study be begun then, devoting the entire six weeks to the thorough examination of the structure of one plant, say a sunflower, or a fern. The teacher can take this opportunity for a general preview of the whole subject. But if it is preferred to have the beginning occur in the winter or spring, take this time for a study of lower plants, which should not be omitted from any course.

110. For this work full directions cannot be given. Teachers can make plans for the work by consulting particularly Bessey's *Elementary Botanical Exercises*, (J. H. Miller, Lincoln, Neb., 35c.); Arthur, Barnes & Coulter's *Handbook of Plant Dissection* (Henry Holt & Co., N. Y., \$1.50); and Campbell's *Structural and Systematic Botany* (Ginn & Co., Chicago, \$1.25). Bower's *Practical Botany* (Macmillan & Co.), and Strasburger's *Practical Botany* (trans. by Hillhouse, Macmillan & Co.) will also be found helpful.

111. Every teacher should have some book with directions for preserving plants. The following are available: Bailey's *Collector's Handbook* (Bates, Salem, Mass.); Penhallow's *Botanical Collector's Guide* (Renouf, Montreal); Knowlton's *Directions for Preserving Recent and Fossil Plants*, (part B, Bulletin 39, U. S. National Museum).

112. In the following list of reference books for the school library the most important are starred (*) and should be purchased first, if but few can be procured at a time: Vines' *Student's Text-book of Botany*.* Vines' *Lecture on the Physiology of Plants*.* Sachs' *Lectures on the Physiology of Plants*.* Goebel's *Outlines of Classification and Special Morphology*; DeBary's *Fungi, Bacteria and Mycetozoa*.* DeBary's *Comparative Anatomy of Phanerogams and Ferns* (all to be had of Macmillan & Co., N. Y.); Gray's *Botanical Text-book* (two volumes only published, viz., Gray's *Structural Botany** and Goodale's *Physiological Botany* [American Book Co.]); Kerner's *Flowers and their Unbidden Guests** (Kegan, Paul & Co.); Müller's *Fertilization of Flowers*.* Darwin's *Movements and Habits of Climbing Plants, Insectivorous Plants* (Appleton); Kerner's *Natural History of Plants** (translation of *Pflanzenleben*, now, Aug., 1894, in course of publication by A. & C. Black); Geddes' *Chapters in Modern Botany** (Scribner); *Practical Flora*, Willis* (American Book Co.).

PHYSIOLOGY.

113. The subject of physiology is the body considered as a working machine. The method of its working should be taught—not merely its structure. Hygiene is the art of furnishing to the body the best conditions of work.

114. The tissues are the elementary machines, or the frame-work in which these work. Muscle, nerve and gland are the chief members of the first group.

115. Physiology shows three main divisions:

1. The handling of the food and the disposition of waste—nutrition, in the broadest sense.
2. The expenditure of energy—motion, heat.
3. The correlation of work, internal and external—nervous work in general.

116. In discussing each of these divisions, attention should be directed to the underlying principles, rather than to the details of the processes.

117. The relation of food and waste, the place of oxygen among the foods, the reason why proteid food is necessary, the significance of waste in the life of the body, the origin and fate of urea, are a few of the topics generally neglected, but necessary to a clear view of the subject. The mechanics of circulation and respiration should be carefully studied. In the former the significance of arterial pressure is usually neglected. In the latter, the way in which the oxygen is used should be studied, as well as how it gets into the lungs.

118. The gland should be studied as a machine for doing chemical work and the analogies between muscle and gland should be made clear.

119. The student should know what a waste substance is; why it is such; why it became a waste; and how it is disposed of.

120. Under the second head some attention must be given to the idea of the correlation of energy. The body's supply of energy and its expenditure of energy must be made plain as well as the income and the outgo of matter. Students must not think that matter is turned into energy.

121. Under the third head, the functions of sense-organs, nerve and central organ must be carefully distinguished. The student must learn why the blind spot in the eye is blind as well as the fact of its existence. Attention should be given to making clear the working principles of these organs rather than to the detail of structure.

122. It is often well to introduce a class to this study by dissections, that the pupils may obtain some general ideas of the plan of an animal, its organs and their relation. It may be found necessary in most instances for the teacher to make the dissection while their pupils draw and take notes to be written out in full in their books. Later, as the class takes up new subjects the teacher may encourage the pupils to dissect for themselves if there is sufficient material. These dissections should be less general and should extend to minuter details than before and be re-

corded by the pupils as at first. Usually material may be had of the butcher if he is given sufficient notice. The teacher will find *Martin's Human Body* (Elementary Course) very helpful in suggesting methods and experiments.

123. Teachers should consult the *Manual for Common Schools* (C. S. M., 249-270), for further suggestions. *Martin's Human Body* (Advanced Course) will be found a valuable book for reference.

PHYSICS.

123. Satisfactory results in this branch cannot be obtained in less than a full school year. It is desirable to have a room that can be used as a laboratory, but if such a room is not available tables may be placed in the main room, in a hall or in a regular recitation room. Where the main room is used it is better to place the tables behind the pupils who are studying.

124. Every school should be furnished with a few pieces of apparatus and material from which simpler pieces may be constructed. Great care should be exercised in selecting the apparatus, especially where the funds at command are limited. If liberal appropriations are available the more useful pieces may be duplicated and arrangements made for extended quantitative work. Many of the more expensive articles are of little value except for show purposes, and should be purchased only after the essentials are supplied. The object of the experimental work is not to make a brilliant spark fly between the poles of a complicated electric machine, nor to break with a resounding crash a piece of rubber stretched over the hand-glass on a costly air pump. To discover, demonstrate and fix in the mind the laws of nature are the purposes to be kept in view. In the majority of cases this may be done very simply, very effectively and with little expense and trouble.

125. Teachers are usually so busy with other work that time will be saved by training one or more of the pupils

to assist. Almost every class contains some one of natural tact and ingenuity who may greatly assist both teacher and pupils while he derives personal benefit from the additional opportunities.

126. It is not usually desirable to put into the hands of the pupils one of the published *Laboratory Manuals*. Usually these are poorly adapted to local conditions and are apt to be more troublesome than beneficial. Every teacher must be a law to himself and, using all the manuals and good texts he can procure, he must lay out in detail the work of his classes and adapt it to the material at hand and the conditions under which the pupils labor. By means of a mimeograph, a copying pad or the blackboard he can place before the class directions for their work and ask such pointed questions as to set the thoughts of the pupils in the right direction.

127. Each pupil should perform for himself the experiments prescribed except in those cases where more will be gained from the discussions resulting from two or more working together.

128. In neatnote-books, the pupils should record in detail, descriptions of the experiments, results obtained, inferences drawn and principles established, illustrating by sketches the actual apparatus used. In all quantitative work great care must be used that the results contain the least possible percentage of error. In this way every topic should be treated before a text-book is given to the pupil. The book is to be used for reference, to assist in gathering up lost threads, to knit together and to systematize what might from the laboratory method alone be disintegrated and unrelated.

129. Laboratory work without capable and constant supervision is a delusion and a snare. It leads to careless habits of observation and to loose thinking. Pupils are not to blame. They are too young to know how to act and how to think. It is the province of this study to give them the power to do and to think, and that teacher is derelict who contents himself with teaching a mass of

facts, or allows his pupils to "putter" about the laboratory and gain slovenly habits of thought and of action.

130. The laboratory should be a model of neatness. There is no excuse for dirt and disorder, and no worse lesson can be taught than that given by the slovenly worker.

131. While time is necessary in the laboratory too much should not be devoted to work with apparatus. Keen, piercing questioning should follow every series of experiments. Descriptive recitations, demonstrations of principles, off-hand blackboard sketches to illustrate apparatus used or to show results of experiments should all have a prominent place. The mathematical side of the study should not be neglected, and accuracy of result should be insisted upon. Arithmetic, Algebra and Geometry should all be called into play and Physics should be made to show the practical application of all those branches. Nearly every topic must be a severe test of mathematical reasoning and accuracy of calculation.

132. Teachers will find the following texts filled with valuable suggestions: Shaw's *Physics by Experiment*, Chute's *Physics*, Hopkin's *Experimental Science*, Edward's *Hand Book*, Mayer's *Sound*, Mayer's *Light*, Dolbear's *Matter, Ether & Motion*.

SYLLABUS.

133. It is usually best to follow the order and sub-divisions of the topics in the text-book in use.

134. The molecular theory must be thoroughly understood by the class so far as the more elementary conceptions are concerned, though it may require time and a broader acquaintance with physics to accomplish this.

135. The properties of matter may be best taught by appealing to knowledge already acquired from experience. Pupils should be required to give numerous illustrations which have come under their personal observation. Extension and other properties furnish excellent opportunities for quantitative experiments.

136. The laws of gravitation and weight may be taught from the book and fixed in the mind by the solution of numerous problems.

137. The laws of motion, of the pendulum and of falling bodies may be readily developed by the class. In these sections of the study, as elsewhere, excellent opportunities are offered for home experimentation, each pupil preparing his own apparatus, describing and illustrating it thereafter. Rigid questioning in the class-room can be depended upon to guard against errors and carelessness. Self-reliance is a good quality to cultivate. Where classes are large or facilities insufficient, much practical home work may be prescribed throughout the year.

138. Pupils and teachers may readily make nearly all apparatus to illustrate the laws of simple machines. The greater the friction the heavier the weights necessary. Much interest may be created by requiring the pupils to sketch and give the mechanical analyses of machines in use at home. A great variety is thus obtained and interesting and profitable discussions arise. Nothing is too homely for use. The carpet-sweeper, the wringer and the washing machine, the egg-beater, the monkey-wrench, the coffee-mill and a score of other familiar machines may be utilized. Of what use is it? What principles are involved? How is power applied? What is gained and wherein lies the corresponding loss?

139. The fundamental principles of hydrostatics may be illustrated in several ways with very simple apparatus. Pupils should be required to find the specific gravity of several different substances, both liquids and solids, heavy and light. All definitions and laws should be thoroughly memorized. The coarser the scales the heavier and larger should be the objects weighed.

140. Pneumatics may be well taught without an air pump, but one is very convenient. By means of glass tubes and rubber, one can accomplish much, but the working models of pumps and other apparatus mentioned in the list are very helpful.

141. No field offers better facilities for experimental work than does electricity. No expensive apparatus is necessary, however charming. Frictional electricity is apt to be too much elaborated. A simple plate machine is better than a more complicated one, though neither is essential. The theories of conduction, induction and condensation should be mastered and pupils should know the few practical applications of them. Glittering experiments may create a temporary interest but physics is not a display study.

Not much expensive apparatus is necessary to teach Voltaic electricity. The inexperienced teacher will find the surest way to a clear understanding of the apparatus and the facts and laws of electricity through making the most of the apparatus used. This cannot be too strongly recommended. If the laboratory is not supplied with a plunge battery of four or more cells, one may easily be made. It is desirable that the school be supplied with a Leclanche, a gravity and a Bunsen's cell for illustrative purposes.

142. The facts and the theory of the currents induced by other electric currents and by magnets should be thoroughly illustrated, and the class should be so drilled as to acquire a mastery of what is taught. The principles of the working of the dynamo, the telephone, the telegraph, the phonograph, the motor, the storage battery, the arc and the incandescent lamps should be learned, if possible, from actual observation and experiment. No teacher should hesitate to take his class where the members can see these machines in operation. Almost every town affords some one of them, and access thereto is rarely denied. When these machines have been seen, diagrams representing them should be drawn.

143. The theories of sound, heat and light should be taught experimentally, and in the order mentioned. A little ingenuity will enable the teacher to demonstrate nearly every principle with very inexpensive apparatus. Each topic should be subdivided and each set of experiments followed by careful discussions. The similarities and differences in the character of the motion that manifests

itself in sound, heat or light should be carefully correlated. The molecular theory may now be made clear, if not previously comprehended. When considering mirrors and lenses much drawing should be practiced till principles are understood and can be demonstrated by figures with mathematical exactness. While off-hand work is elsewhere desirable, here the drawing should be as exact as possible.

144. The elementary facts of color and polarization may be taught with simple apparatus. Expensive polariscopes are not necessary, but a pocket spectroscope should be obtained.

145. The course in physics may be shortened at first by omitting some of the more difficult discussions, especially if the teacher possesses no means of experimental illustrations. But under no circumstances should the discussion of work and energy be slighted. The class must be led to perceive the transformation of one form of energy into another under whatever form it may appear. The relation between work and energy must be kept constantly in mind.

146. Finally, that teaching of physics is best which causes the pupils to see clearly, to do well and to think closely, and this result can never be attained except by hard, enthusiastic labor on the part of the teacher.

APPARATUS.

147. The following list of apparatus is considered essential. It is not to be supposed that it contains all the apparatus that is desirable. The pieces here enumerated are those not easily constructed, and for which it is not easy to substitute anything else. The McIntosh Battery and Optical Co., and W. A. Olmsted of Chicago, and Queen & Co. of Philadelphia, will furnish the pieces. The prices may be subject to considerable variation but will be serviceable in making estimates. Persons buying should write for catalogues, and invite estimates before ordering.

148. Model of a steam engine.....	\$2 50
This model shows the essential parts of a steam engine in position and how they work.	
Clinical microscope with society screw, fine adjusting screw, one eye piece and 1 inch objective.....	20 00
With polished case.....	21 00
Combination specific gravity and chemical balance with two long and one short pan and hook.....	6 00
1 set metric weights, 50 grams down.....	75
Lever air pump—3 valves, 8 inch plate.....	21 00
Bell jar, 8 inches diameter.....	1 50
Magdeburg hemispheres, 4 inch stop cock and stand....	3 50
The last two are attachments for the air pump.	
Barometer tube, heavy glass.....	50
Pipette for mercury. (Needed for filling tubes with mercury).....	10
3 lbs. mercury and bottle.....	2 55
Marriotte's Law apparatus....	3 00
Marriotte's Tube only.....	60
Set of three single, two double pulleys, weights and wheel and axle.....	3 00
Pair of bar magnets with keepers, 6 in.....	60
Magnetic needle, on stand.....	50
Electrophorus and catskin.....	3 50
Leyden jar, 1 qt.....	1 00
Telegraph scunder on base.....
Telegraph key ready to mount on base.....	3 50
Electric bell.....	75
Double convex lens (reading glass), 4 in. in frame.....	1 50
3 oz. alcohol lamp.....	25
Glass tubing per lb.....	30
3-16 rubber tubing per ft.....	08
Retort stand, 2 rings.....	40
Iron clamp, adjustable.....	55
Florence flasks, 1 pint.....	20
Funnel glass, 4 oz.....	08
Glass model of lifting pump.....	1 25
Glass model of force pump.....	1 40
Insulated copper wire, No. 16.....	80
$\frac{1}{4}$ lb. insulated copper wire, No. 30.....	70
Toepler & Holtz electric machine.....	24 00
The last is an interesting addition to the list, but is not an essential.	
Glass cylinder graduate 500 cc. to 5 cc.....	1 20
Glass cylinder graduate 25 cc. to 1 cc.....	38
2 spring balances 48 oz., in ounces.....	42

2 spring balances 24 lbs., in pounds.....	42
Chemical thermometer 200 c. Scale on stem.....	\$1 40
Rotating machine with centrifugal apparatus.....	4 55
Galvanometer.....	4 90
Glass friction rod for electricity, 22 in. length.....	30
4 cell plunge battery.....	9 00
Primary and secondary coils, movable.....	5 25
Ruhmkorff's coil, $\frac{1}{2}$ in. spark.....	8 40
Siren disk (to be used with rotating table)	1 40
Pair of large tuning forks, one on resonant case.....	3 15
Convex and concave mirror.....	2 45
6 in. prism.....	43

PSYCHOLOGY.

149. The study of psychology in the high schools must necessarily be elementary and will be successful in so far only as it is simple and direct. No effort should be made to teach a system of philosophy or to engage in metaphysical disputation. The end will be reached if the pupil is taught what the mind can do and how it does it. A scheme of the mental faculties should be presented and the pupil should learn the office of each and the order in which it is developed. Definitions of mental powers and processes should be given, so far as possible, in simple, unequivocal English. When it is found necessary to use a Latinized or a foreign term its meaning and the necessity for its use should be clearly shown, and the pupil should be required to use it in his recitations until the term acquires the force and distinctness of a native idiom. The teacher should remember that mental methods can be defined and illustrated only by appeals to individual experience, and that facts and theories are worthless to the student unless and until he finds them there. Fundamental processes, such as perception and consciousness, should be clearly defined, but no effort should be made to explain their source.

150. The influence of the emotions and the will in determining character and conduct may be explained and illustrated, but all effort to examine the origin of these pow

ers, or to determine the order of their activity will result in mental confusion. But after all necessary eliminations are made the pursuit of the theme may be rendered both pleasant and profitable. The mind is the instrument through whose activity all accretions of knowledge come. The study of its powers, modes of action and limitations is noble in itself and ought to be rich in results.

151. The examination of the sequence in the unfolding of its powers furnishes the guide lines for student and teacher. The habit of sober and accurate thought which this study necessitates is the prerequisite of wise action. To impart the power of fixing the attention, of holding the mind steadily to the subject in hand is preëminently the province of psychological study, and is the highest outcome of intellectual training.

In addition to the text used with this class, teachers will find the following books especially useful for reference: Murray's *Handbook of Psychology*, Carpenter's *Mental Physiology*, especially chapters 3-12; and for the emotions and the will, Bain's *Education as a Science*, ch. 3.

PEDAGOGY.

152. The law requires that instruction in the Theory and Art of Teaching and the manual of the course of study for common schools shall be given in all free high schools receiving aid from the state; and the recommended courses of study for such schools indicate classes in this subject during the spring term of the year. 273. The aim of the instruction in this branch should be eminently practical.

153. The following books are especially recommended to principals as useful. White's *Elements of Pedagogy*—Parts 2, 3 and 4; Page's *Theory and Practice*; Swett's *Methods of Teaching*; Fitch's *Lectures on Teaching*; Rein's *Outlines of Pedagogics*, especially Part II b, "Of means of Educational Methodology;" White's *School Management* and Patrick's *Elements of Pedagogics*. This last book is espe-

cially useful as a text for high schools, being simple, new, practical and interesting.

154. The following outline will serve as a guide for the general conduct of the work. The chief difficulty will be found to arise from its seeming unreality. The pupils lack practical contact with the problems involved and their imperfectly formed habits of reflection, make it difficult for them to deal fruitfully with the subject. This difficulty will be best overcome by approaching it first through observation of actual work followed by class exercises for discussion of the same. The observation, in order to be profitable, should be guided by questions proposed beforehand by the teacher; the pupil's report should be written, and limited strictly to observations bearing upon the topic assigned. The reports should be properly made in an exercise book kept for that purpose, in which, in the beginning, entries should not be made until after the first draft has been suggested to criticism. In the class work following, it should be the teacher's purpose to develop reflection, and not to pour in information.

I. OBSERVATION.

155. Order. What is the plan of seating, and what are its advantages? How do the pupils come into the room? How are the movements of classes, etc., managed? What arrangements prevail as to requests by pupils?

156. Control. How does the teacher secure the attention and obedience of the school? How is the giving of general orders managed? How are individuals restrained? What is the tone of the school and how is it secured? What does the teacher accomplish by a look, a gesture, a quiet word? What reproofs have you noticed? What suggestions? What punishments? What rules do you find in force in the schools?

157. Organization. How many grades are there in the schools? How many recitations has each? What studies?

What are the pupils doing in each? What is the program, and what does it show? Are the pupils kept busy? How? What employment is provided for each division of time? What general exercises are there? Does the program provide sufficient variety of work and allow sufficient movement to rest the pupils?

158. Recitation. What are the subjects of the recitation, the ends attained and the plan by which they were attained? What rules of order prevail in the class? How is the work adapted to the needs of individuals? How is the whole class kept busy and interested? Is there emulation in the class, and how is it managed? Observe the assignment of lessons to see (a) how long they are; (b) what directions are given for preparing them; (c) what helps are given in advance; (d) what motives are called into play to secure study.

159. In giving directions for these and other observations the high school teacher will, of course, instruct the class in whatever may be necessary for them to know in order to observe intelligently.

II. THE MANUAL.

160. Preparatory. What is a course of study and what should it show? (C. S. M. 9.) What branches of study must be taught in elementary schools? (C. S. M. 6.) What advantages are there in favor of adopting the course provided in *The Manual*? (a) It is systematic and progressive; (b) it is divided into clearly distinguished forms or sections; (c) into which admission is gained by passing certain definite tests; and (d) it is the result of long experience and study.

161. Plan of Study. (1) What the forms are, their limits and the tests for passing from each. (2) A general view of the whole course, to show (a) the systematic progress secured throughout the course in each of the leading branches, as arithmetic, reading, language lessons and geography. Let the purpose be to grasp clearly the order in which the different parts are taken up, and the

advantages of this. (b) The relation of the different branches to each other, as when geography is introduced and why, when and why history, grammar, constitution. (C. S. M. 10.)

161 b. *Methods.* The scheme in *The Manual* affords the basis for general instruction in methods. It ought not to be a mere exercise of the memory, as will be the case if pupils are required to follow some text-book. Neither ought the work to be carried out in detail, so as to outline all that is to be done in the school. Let the brief indications of *The Manual* often lead rather to the particular question how, and to the suggestion of various ways by pupils and teacher. Seek to form clear ideas of (a) what is the end to be attained, (b) how it may be attained. Parts II and III of Swett's *Methods* will be found very useful and many of the suggestions and practical exercises may be introduced profitably into the class, but the book is one to be consulted, not committed. Fitch's *Lectures*, from the fifth on, are valuable to the teacher as they are more coherent, systematic and philosophical. The teacher should be familiar with these before undertaking this instruction. It will be found most convenient to follow the order of the manual, taking up first the primary form, then the middle and finally the upper, that the general characteristics of teaching in each form may come out as distinctly as possible. Observation in the elementary schools may profitably be resumed during this work, the amount of it being determined by its helpfulness in enabling the pupils to profit by the instruction.

162. *Supplementary.* Program and how to make one (C. S. M. 382). Records, what kinds, what they should show, and why and how to keep them. (C. S. M. 388-392).

III. EDUCATIONAL MAXIMS.

163. A full discussion of the following maxims and the application of each to its proper phase of teaching should not

be neglected. All good teachers may not know these maxims but every good teacher follows them.

Only one thing should be taught at one time, and an accumulation of difficulties should be avoided.

[One thing may mean one branch, one topic or a single point in one topic; the latter is intended, and the maxim directs to teach each point completely before passing to the next. To follow it the points should be arranged in their natural order, so that in teaching one we may not imply another not yet mastered.]

164. No exercise should be so difficult as to discourage exertion, nor so easy as to render exertion unnecessary.

[Beget in the pupil a sense of progress, and a sense of his own power to do as the proper stimulus to exertion.]

165. Instruction should proceed from the known to the unknown, from the simple to the complex, from the concrete to the abstract.

[(a) What the child knows is the material to be used in teaching him more; (b) and this must be done by taking up first what he will understand most easily; (c) and presenting particular concrete instances until he is able to derive from them for himself the principal rule or generalization.

166. The development of the child's powers is of more importance than the acquisition of knowledge; therefore, make the latter always contribute to the former.

[The method to be followed is indicated in the following maxim.]

167. The teacher's business is to help the learner to teach himself.

[Avoid doing the work for the pupil; teach him in such ways as will help him to teach himself; lay out the work for him, supply motives for self-exertion, develop power of self-criticism.]

168. Teach individuals so as to teach the class, and see to it that each pupil receives suitable instruction and does profitable work.

169. Provide employment for the hands of young children and frequent changes of work for them.

170. Teach things, not mere words.

[In oral teaching the idea should be impressed upon the mind of the pupil before the word which expresses it; but when a new term occurs the teacher should see to it that the pupils form some conception of what it means.]

MATHEMATICS.

171. The English and general science courses offer a year in algebra, a year in geometry, two terms in arithmetic and one term in bookkeeping.

172. In case the classical courses are also carried, a different arrangement is suggested, viz.: Place geometry in the second year and allow the third year of mathematics to consist of a term of bookkeeping, one of arithmetic and one of review in algebra and geometry. This is considered a more logical arrangement and it will doubtless be possible for such schools to have the necessary preliminary work well done. *The key to the successful administration of mathematics is the term of review in algebra and geometry*, following, if possible, the arithmetic. This should be conducted by the principal or some one conversant with the entire course, and should aim to correlate what may be disconnected, to show relations where none were seen and to fix the principles which underlie the branches.

173. Students pursuing the classical courses must omit some of the studies carried by others. The courses indicate what may best be sacrificed.

ARITHMETIC.

174. Review factoring, common fractions and decimals. Let the work be chiefly mental. *Aim at quickness in handling easy numbers*. The class need not be held to these almost fundamental operations until the necessary facility in their use is obtained. The drill may be given in connection with more advanced calculations and serve as a relief from ordinary recitations.

175. FACTORING.

1. Secure a thorough familiarity with all the prime numbers less than 100.
2. Secure ability to factor readily any composite number less than 100.
3. See that the pupils are able to use readily the ordinary test of divisibility.
4. Drill in finding G. C. D. and L. C. M., 1st, by factoring; 2nd, by inspection.

176. FRACTIONS.

1. Give much drill in handling fractions used in ordinary business; halves, thirds, fourths, fifths, sixths, eighths, tenths, twelfths, sixteenths, and twentieths. If the work of factoring has been done with sufficient thoroughness, all the reductions necessary in addition and subtraction of fractions may be performed mentally, and in all work in multiplication and division cancellation may be readily employed.
2. Make problems in fractions for pupils to solve and require them to make and solve problems themselves.

177. DECIMALS.

1. Give much mental drill in reducing common fractions to decimals, and decimals to common fractions.
2. Show that common fractions may be exactly expressed as decimals and why. In these exercises success depends upon skill in handling the two factors 2 and 5, the prime factors of 10.
3. Give written work in adding, subtracting, multiplying and dividing decimals. In all these see that pupils are able to take care of the decimal point.

178. Problems involving measurements of rectangular surfaces, lands, flooring, painting, plastering, carpeting, etc., and problems involving measurements of rectangular solids, wood in piles, stone and brick in walls, grain in bins, liquids in vessels, etc., should be given considerable prominence.

179. PERCENTAGE.

1. Take great pains to give pupils clear ideas of the meaning of the terms used; per cent., base, rate, percentage, amount, difference.
2. Give mental drill in reducing common and decimal fractions to per cent., and per cent. to common and decimal fractions.
3. In all the applications of percentage the main thing is to know exactly what the base is, and the chief troubles arise from carelessness in determining the base.
4. In all questions in profit and loss, fix thoroughly the fact that the base is the cost, and give drill in all the ordinary problems coming under this head. Give much mental work. Do not weary in asking, "what is the base?" so long as pupils hesitate in finding it.
5. Commission is more difficult. The agent may buy: in that case the base is the purchase price. The agent may sell: here the base is selling price. The agent may collect: here the base is the sum collected. Drill thoroughly first in easy problems to be solved mentally, then in more difficult problems for written work.
6. In Trade Discount the base is the list price. In all of the applications of Percentage the pupil's difficulty is much more likely to be found in his ignorance of the nature of the business than in his want of arithmetical skill.

7. Learn the method of levying and collecting taxes in Wisconsin and base the work upon this method. What is the base?
8. Teach interest thoroughly. Give careful instruction in regard to promissory notes. Require the pupils to write them until they become familiar with the best forms and with their legal significance. Do not attempt to teach all the numerous "best ways" of casting interest. Let the pupils have the joy of discovering some of the labor saving expedients for themselves. Teach the U. S. Rule for Partial Payments. This work is usually made unnecessarily severe. The rule may be thoroughly taught without the use of such excessively tedious and difficult "examples" as are given in some of the books.

180. BOOKKEEPING.

Though this is placed in the courses of study it may profitably be pursued in connection with arithmetic instead. There should be much practice in making out bills and receipts; in writing notes, checks and drafts of different kinds and other business papers. Choose some simple system of bookkeeping; by illustrations make your pupils familiar with the books of the system; then give them the work in the form of memoranda. In this way you can put into your memoranda any part of the arithmetic in which you wish to give them instruction. Partnership, Trade Discount, Bank Discount and other parts of the arithmetic may be taught in this way to great advantage.

- 181.** It is not profitable to teach foreign and domestic exchange as based on a "rate per cent. premium" or "course of exchange," or as relating to "time drafts." Teach how to write, buy and sell checks and drafts, post office and express money orders. Exemplify other methods of paying debts in distant places.

182. RATIO AND PROPORTION.

Here leave out Cause and Effect and teach the old "Rule of Three." Show that in solving problems by the "Rule of Three" while the statement differs in form from the statement in analysis, the operations to be performed are identical.

183. EXTRACTION OF SQUARE ROOT.

1. By factoring.
2. By inspection and trial.
3. By the ordinary rule.

184. EXTRACTION OF CUBE ROOT.

1. By factoring.
2. By inspection and trial.
3. By the ordinary rule.

185. GENERAL REVIEW, in the form of the solution of illustrative problems.

These problems should be hard enough to try thoroughly the mettle of your pupils. They should be so constructed as to compel a review of the whole subject of arithmetic.

186. The foregoing outline has been prepared to show what may profitably be taught in this branch. Most of this should have been done in the grades below the high school (C. S. M., 105-172), so that here, following algebra, the teacher's best effort may be given to presenting a real science of arithmetic, which will then be seen in all its intimate relations to other branches of mathematics. However, it has seemed best to defer more radical changes in the high school work until the grades can accomplish what the long years of time given them justify us in expecting.

ALGEBRA.

187. In the school year devoted to this topic time enough is allowed to make preparation for college and to give all the disciplinary value that the branch affords.

188. The solution of problems is not the end in algebra, but merely an incident. A retentive memory and a little native shrewdness will soon enable a pupil to perform his examples while he is still wondering at the magic by which he obtains the no less unintelligible results. It is easy to mistake this facility for real algebraic knowledge and it is only by constant drill in expressing the meaning of symbols and of operations that the skill may be turned to good account.

189. The pupil should be constantly referred to principles rather than to rules so that all operations may be logical and necessarily correct. In clearing of fractions and in every step of the transformation of equations he should perceive and be able to indicate the axioms upon which the work is based. Throughout he should be taught to see that these are only new applications of principles which have been familiar to him since he began arithmetic. The idea of generalization should be fully developed and constantly dwelt upon by use of literal equations till they bristle with meaning. In the solution of these, drill should be given in finding the value of any letter in terms of the others.

190. Though skill in factoring is eminently desirable, too much time may be spent in gaining facility in it. A real comprehension of the reasons for the processes must still be insisted upon.

191. Exponents, numerical, literal, positive, negative and zero, fractional and integral, should be understood and stress should be laid upon the course of reasoning by which their value becomes apparent. Radicals and the theories of indices should be mastered even at the expense of

some of the problems with which the books are filled. Algebra should stimulate thought, not action; it is a thinking study, not a doing one. But examples and problems are necessary, for only by them can one test the pupil's power to apply the principles he has learned.

192. What has been said of the scope and aim of the study will indicate something of the methods to be pursued. There should be mental algebra as well as mental arithmetic, problems explained from the board and problems assigned therefrom. In general, when a problem is once solved its value is lost and it should not be called up again unless for reason. If the teacher wishes to test the skill and acumen of the pupil he can do it more advantageously by presenting an entirely new set of conditions. Independence should be cultivated and too much help should not be given. It is as useless to expect every one in the class to do the same amount of work as it would be unfortunate were such a thing possible. If anywhere a student should be allowed to forge ahead it is in his mathematics, and if the teacher is judicious no harm will arise from comparison with others less ready. Life and animation should characterize the recitation, for the mind does this peculiar work best when under highest pressure. A slow, inert recitation is intolerable to pupils and should be tabooed among teachers.

GEOMETRY.

193. Classes commencing geometry usually need some illustrative exercises in the use of the common drawing instruments and in the practical application of a few of the principles of geometry to measurements, to drawing and to the affairs of every day life. Time is frequently saved by such instruction at this stage and interest is certain to be excited.

194. Since geometry is essentially a disciplinary study, those methods of teaching are best that most tend to de-

velop thought power in the pupils. Two things are essential:

1st. That the subject matter should be so prepared that it is difficult enough to call forth the best effort of the pupil, and yet sufficient help or suggestion should be given so as not to discourage him.

2nd. When the lesson has been prepared by the pupil he should be thoroughly tested upon it by questions. He should be called upon, in the demonstration, for instance, to show the relation of each step to the others, the authority for each statement, the reason for the construction employed, etc. In other words, he should succeed or fail in the recitation, as he stands or falls under a series of rigorous questions.

195. In the preparation of the lesson, *independence should be encouraged*. The minimum amount of growth is acquired by the pupil if he simply reads the author's demonstration and assents to it. Induce him as soon as possible to omit, in his reading, the author's quotation of authority, and to supply it himself from his knowledge of the subject. Exercises adapted to the pupil's stage of advancement should be frequently given.

196. It is an excellent plan to write out suggestions for the demonstration of one of the propositions of the lesson upon the blackboard, that may enable the pupil to work out a demonstration for himself; or, suggestions may be given for a difficult exercise, or for a demonstration different from the one given.

197. If the pupils can be induced to be independent, different demonstrations may be produced, when possible, and one student may arrive at more than one. The suggestions should be clear and adapted to the ability of the class.

198. The student should be led to see that geometry is a logical body of thought, in a sense integral; that it does not consist of many unrelated propositions, but that each is dependent on others and that all have been built

up by the combination of a few axioms and simple demonstrated principles.

199. In review a greater proportion of the work should be original. The time required for this kind of work is not easily estimated, and it is better to err on the side of generosity. Do not explain at the first difficulty, but let the proposition stand as a challenge to renewed effort.

200. In a review recitation it is well at times to have a pupil give, accurately and in order, the propositions upon which a demonstration depends. A successful device to stimulate thought and give concentration is that of describing the figure, lettering the lines and then calling upon some student to demonstrate orally from the mental picture he has made. One demonstration may serve to make the recitation for several pupils.

CIVICS.

201. The branches included in this section are so closely allied that they should be considered a harmonious group and should be clearly and persistently related in the administration of any course of study. United States history and the constitutions are given a year's time on the supposition that the former has had at least that period in the grades below the high school. In no case, however, should that elementary work be considered as sufficient. United States history cannot be satisfactorily completed below the high school.

202. The law requires the teaching of the constitution of the state and of the United States, but the subjects should be handled with some freedom. A dry and formal study of the documents themselves is not productive of that better education in American citizenship which the law intended to foster.

203. The leading authorities in historical studies seem to consider that the desired results are best obtained by devoting the first half of the third year to ancient history and the latter half to English history, assuming that the teacher will always relate sufficient general history to that of the leading nations considered. The state university prefers that its students be prepared along that line.

HISTORY.

204. "The most precious things history has to offer may be missed by one who is chiefly employed in memorizing it. When history is viewed as an assemblage of unrelated facts, conquering it naturally takes the form of committing it to memory. When it is looked upon as a

development,—a chain of causes and effects,—it appeals more directly to the reason and the understanding. Many, if not most, of the facts of history the pupil is destined to forget. He should be so trained, therefore, that when the unavoidable oblivion comes, he shall yet retain something of interest in reading history, something of power in following up a line of ordinary investigation, something of a disposition to seek for the underlying causes of events, something of a grasp of the mightier tendencies and movements of history, and some inkling of that conception of history that makes it a teacher of the present out of the wealth of its past." Hill's Introduction to Fiske's *History of the U. S.*

GENERAL METHODS.

205. Under this head are grouped a series of suggestions applicable alike to the teaching of any department in this branch.

206. The instructor should aim (a) to leave in the student's mind a clear outline of important events in their relations to one another and some knowledge of the characteristics of each nation studied; (b) to develop the student's power of comparing facts and drawing inferences from them; (c) to stimulate the love of historical study. The simpler and clearer the methods used the better will be the results.

207. The physical geography of the region should come first. Historical instruction, without the constant accompaniment of geography, has no solid foundation. Attention should be called in advance to the way these physical features have affected the course of history, and the student should be encouraged to trace such influences in the case of individual nations. Egypt is an excellent example.

208. Interest may be aroused by a judicious use of illustrative material. Good pictures are useful. Students should be encouraged to read articles in recent magazines. In the use of supplementary material care must be taken

not to confuse or overload; the effort should be to whet the appetite, not to satiate.

209. A pleasant recitation room brightened by pictures and filled with books is the proper home of successful teaching, and whatever will attract attention and retain interest is valuable. The dry and formal committal of a text is a waste of time and the disgust with historical studies which grows out of it is the only possible result. Better drop the study from the curriculum than to teach it in that way. If there are places of historic interest in the neighborhood, and Wisconsin has her share, visit them with the class and on the spot bring vividly to mind the scenes of thrilling interest that there transpired. If these are not accessible, some one in the class has visited such localities and from him can be obtained interesting accounts which may be followed by questioning from the class and comment from the teacher. A visit to Chattanooga or to the halls of Congress would furnish striking opportunities for description and could usually be illustrated by pictures and diagrams. The large cities have museums and art collections and a visit to these would be of immense value, as words and even pictures fail to give the vivid impression that a glance at a mummy-case and its inscriptions will convey. In many a village there are private collections which the owner would be delighted to exhibit to a class of pupils or to lend to an earnest teacher. Chronology and descriptive text may fail to excite interest, but graphic biography will always hold a class. The vitality of a great life seizes the hearer and the impressions thus made are recalled vividly long after the dates fade from the memory. The lives of great men are not all of history and there come times when their relations to the world's progress must be clearly shown, but it is safe to assume that high school pupils are not all philosophers nor will they be interested at first in purely philosophical themes.

210. In keeping with what has been said is the further advice to be contented only when several text-books are accessible. No one book covers the whole field, nor does

it present different aspects equally well. Authors vary greatly and it is a teacher's business to discriminate among them, to show wherein one excels and what may be safely omitted from another. This multiplicity of texts need not be expensive. If the district furnishes the books several small sets can be bought as cheaply as one large one. If the pupils buy, the same need not be required of all. Only the weak teacher finds difficulty where several authorities are used.

211. There must be parallel readings outside the school text-books. These may be in strictly historical works or they may run into the domains of poetry and romance. While sometimes history may have been sacrificed slightly for the plot, and while the poet's license may have permitted him to distort facts occasionally, yet there are many novels and poems that portray the life of epochs as no historian's pen ever attempted. A study of the literature of a period may create an abiding interest in the times, while from a collection of poems dealing with an epoch many a fascinating recitation may be derived.

212. What has been said so far implies a library. Books are to the student of history what wire and glass are to the physicist. Side by side with the furnishing of the laboratory comes the collection of a library. Ten dollars may start it, twenty will give a fair list of working authorities, while two hundred dollars will furnish a well-stocked library for class work. If the town affords a public library it should be freely used; private libraries are usually open to careful pupils, and if neither of these resources is at hand each pupil in the class may buy one good book or contribute something towards such a purchase.

213. Elsewhere much is said about the tactics of the class room, but a few further hints may be added. Lectures by the teacher are not valuable except when briefly used to open a new field of investigation, or to prepare the way for a subsequent recitation. This does not exclude descriptions of places and events which have fallen under

the teacher's own observation, or those which may serve to illuminate dark passages.

214. Frequently upon the completion of a topic a written analysis may be prepared by a pupil, placed upon the board and subjected to the criticism of the class. The relative importance of items in the classification, the omission of important things and the including of those of less value, the words and phrases in which the outline is couched should all be criticised.

215. An occasional and painstaking bibliography of a subject is a good assignment of work for a pupil. The references should be classified, and clearly made to book, page and paragraph. If these are filed they will be of value to other pupils in the study of the same subject.

216. In using the topical method, especially with classes new to the subject, great care must be taken to make the directions explicit. Occasionally it may be wise to send a pupil to a library to search for his material, but usually careful direction as to book, chapter and even page should be given. Weariness and disgust frequently come from the fruitless efforts of the tyro among books. Too broad a topic is discouraging and leads to slovenly investigation. If the teachers themselves are unfamiliar with the authorities, little should be attempted. One or two well digested topics will be of infinitely more value than partially fruitless attempts to consider a wide range of subjects. The teacher will soon find that he must cultivate the habit of *rejection* as well as of *collection*. When such topics are assigned as can only be studied from original sources of information this habit becomes of vital consequence. To those who have never tried the plan there will come surprises from the quantity of interesting records any community affords when the pupils are set upon a course of investigation. Copies of charters and other public documents, newspaper files and old letters, records from the courts and the minutes of legislative bodies may all be consulted. Eye witnesses of stirring events will give their accounts and an opportunity for keen discrimination is

offered in detecting how much of personal coloring is given to the narrative. Wisconsin is still young enough so that much of its local history may be compiled in this way. Care must be taken that there is no prying nor impertinent curiosity nor encouragement of petty gossip. Each pupil should have his special topic, and when fully completed it should be safely filed in a convenient place for public consultation. No attempt should be made to give each individual in the class the same work, nor can the work of succeeding years be indetical. It is not a search for the accumulation of facts, but a training in the habit of investigation and of the powers of discrimination and of reason, and, frequently the value of the discipline cannot be measured by tangible results. The history of the school, of local organizations, of literary and other societies, of the class of which the pupil is a member, of the growth of prominent industries in the locality and other minor topics of this nature are not without their value in training the historical sense.

And, lastly, the teacher should bear in mind that life and animation are the characteristics of the successful class in history and that he must look to himself as the cause of the listless, half-rebellious attitude which characterizes the class of whom is required only the mechanical absorption of the facts of a school text.

UNITED STATES HISTORY.

217. One of the chief aims of the teacher of history is to create an abiding interest in the study. It is not so important how many facts are acquired as how much interest is awakened. Interest will certainly result in wide reading and much knowledge will thus be gained. Anecdotes should not be the exclusive means to attract attention in the high school. The year's work should have constant reference to governmental development and should be constantly related to the study of civil government. The history of the United States cannot be studied alone. Our relations

with England and with the nations of Europe have had an important influence in determining the course of events, and these relations should be clearly set forth by the teacher. It is not wise to leave this for the year in general history. By anticipating, nothing is lost but more of unity is given to the entire historical course.

218. There should be careful topical study of the nation's growth in population, in territorial domain, in the means of inter-communication, in financial ability, in educational facilities and in moral power. Events that have hindered the progress of the nation should be considered. The presidents were results, not causes, and all do not deserve equal consideration, nor the complimentary notice of a definite location in one's memory. If the caution against teaching too many things is needed anywhere it is in the history of our own land. If anywhere the trivial is apt to be ranked with the important, it is here where time has not lent its powerful perspective and where text-books vie with each other in gathering every incident that may possibly be remembered.

219. To close the year, comes the review wherein each may see what all have done and during which one may stand where he can obtain a bird's-eye view of the whole historical landscape. Two helpful substitutes for the ordinary review may be mentioned. In one the pupils given an entire subject, as, for instance, the New England Colonies. To make from this topic a fluent recitation that holds the interest of all pupils, though the subject is familiar, will be a delight to any pupil. When the recitation is finished it is criticised as to matter and manner, the language, the attitude and intonation of the reciter, as well as historical matter, all coming under fire. The second device consists of a raking fire of short, sharp questions for a few moments in each recitation. To these a prompt, direct answer is required. The purpose of this is to give the pupils the power of quickly and accurately recalling the substance of their previous lessons, and to fix the whole indelibly upon the mind. The tendency of labora-

tory or seminary methods is to make the special work done by the pupil, seem unduly prominent, or to give him disconnected and discordant ideas. The proper scope of the review is to unify the work of the year.

ANCIENT HISTORY.

220. The time devoted to oriental history must necessarily be short. Emphasis should be laid on the chronological succession of the great oriental empires, the characteristics of each, and the contributions that each has made to the history of civilization. The teacher should guard against the notion that any of the eastern nations can properly be studied by itself; attention should constantly be called to their relations to one another and to the elements of unity in their history. Thus the sojourn of the Hebrews in Egypt may serve to connect Egyptian history with the history of Israel. The overthrow of the Jewish kingdoms by Assyria and Babylon connects them with the history of the Mesopotamian kingdoms. Chaldea, Assyria and Babylon should be studied in succession. The conquests of Persia may be made the basis of a review of the other oriental kingdoms; a diagram may easily be prepared to assist in the review. Phoenicia should be studied last as the great middle-nation of antiquity, the colonizers and traders who connected the oriental nations with one another and carried their civilization to Greece and the West.

221. The history of Greece should be approached from the east. The student should compare for himself the eastern and western shores of Greece, and see how the islands and harbors of the Aegean invited civilization across from Phoenicia and Asia Minor. He should see on the map the causes which kept the Greeks disunited and made them a sea-faring people. (No spot in Greece is more than forty miles from the sea. With one-tenth the area, Greece has as many miles of sea coast as Spain and Portugal.) A suggestive way of looking at Greek history is to divide it into three periods: the early ages of migration

and colonization; the period of the internal development of the various states, and the epoch of Philip and Alexander. In the first period the Greeks were settling the mainland of Greece and sending colonies with the rudiments of civilization into the Aegean, the Black Sea and the western Mediterranean. Then came a long period of internal development, of intensive rather than extensive life, during which the Greeks lived to themselves and had little to do with foreign nations, although it was the results of their growth in this period that exercised most influence on later times. It was the age of Pericles, Phidias and Sophocles; it was also an age of bitter wars among the Greek states. The supremacy was held in succession by Athens, Sparta and Thebes until their jealousies prepared the way for the rise of Macedon. Finally, the conquests of Philip and Alexander spread Greek civilization over the East, and the arts and learning of conquered Greece took captive her Roman conquerors.

222. Roman history should be studied in the light of general history. It should be noted that just as Greece looks towards the east, Rome is turned to the west and left its greatest influence on the peoples of western Europe. The Greek contributions to civilization were largely in the realms of art and literature; the Roman, in the field of law and government. The student should get a clear idea of the widening of Roman dominion from the little Latin hill town to Italy, and finally to the whole Mediterranean world. The economic and social changes that accompanied this growth from a city community to a world empire are instructive. It should be made clear that the important period of Roman history does not terminate with the life of the republic, and that some of the most significant phases of Roman influence and power began then. It was under the empire that Rome unified the heterogeneous peoples she had conquered, gave them a common system of law, a common religion, a common language, and thus made her influence permanent. The only unity Europe had in the Middle Ages came from Roman sources. The so-called fall

of Rome is really one of the best illustrations of the continuity of history.

223. Since many students derive all their knowledge of Greek and Roman civilization from their study of ancient history they should be taught as much concerning the life, art and literature of the Greeks and Romans as the time will allow. Pictures of Greek statutes and Roman buildings should be shown. Good illustrative material may be found in works on mythology, such as Guerber's *Myths of Greece and Rome* (American Book Company), and Gayley's *Classic Myths* (Ginn), and on private life, such as Mahaffy's *Old Greek Life* and Wilkins' *Roman Antiquities* (American Book Company), and Preston and Dodge's *Private Life of the Romans* (Leach, Shewell & Sanborn). Pupils should be encouraged to read classical history. Selections from Herodotus and Plutarch generally appeal to young people. Macaulay's *Lays of Ancient Rome*, though they rest on tradition, give expression to much of the old Roman spirit. "There is nothing like the magic charm, whether of sublimity or pathos that poetry lends to historical events, persons and places."

224. Illustrations alone are not sufficient to give reality to a period of history; a picture, however vivid, may be as unreal as a dream. The student should compare ancient events and persons with modern events and persons that he may see that the Greeks and Romans do not live in the pages of a text book alone, but that they had a real flesh and blood existence like his own. He should come to look at history not as a panorama of unconnected pictures, but as the record of gradual human development.

ENGLISH HISTORY.

225. Where general history is not taught the chief events in the history of Europe should be briefly described in connection with English history. Thus the work may begin with a study of Britain before the Romans. The Roman conquest and occupation should be connected with the Roman empire. The Saxon invasions of the fifth cent-

ury should be considered in connection with Germanic invasions in general, and the results in England and on the Continent compared. Something may be said of Charlemagne and of the Saracen empire. Study of the Danish and Norman conquests should be preceded by an account of the migrations of the Northmen. Feudalism, the Crusades, the controversy between Pope and Emperor, the rise of towns, the Renaissance, the Reformation, the Thirty Years' War, and other great European movements may in the same way be brought into relation with the history of England. The students will thus get a clear idea of the history of a single country — and that the most important for an American, next to his own — and at the same time will learn something of the general history of Europe without being confused by the stories of too many nations and events.

DEFECTS IN PREPARATION.

226. The following have been pointed out as defects found in the preparation in history of students entering the University of Wisconsin, and are given here as indirect suggestions of methods:

First. A lack of geographical knowledge. If the relation of physical and political geography to history were emphasized there would be much gain for both subjects.

Second. The text-book rather than the subject has been taught. Use should be made of the topical method and of general outside reading, although not to the exclusion of the text-book.

Third. Failure to select what is vital and to omit what is trivial. On this point Prof. Emerton, of Harvard, well says:

"It is important that a certain number of dates should be learned accurately and solidly. The danger here is that much may be required, and the pupil's mind be thus burdened with a mass of information the meaning of which he cannot understand. Require at first but few dates, but let these be such as mark great crises of history. Others may then be grouped about these, and will never be for-

gotten so long as the central dates are remembered. Do not ask pupils to learn lists of rulers, because rulers have not generally been the most important makers of history. It may be urged that the names of rulers form convenient pegs on which to hang our historical knowledge, but we can generally find better pegs."

Fourth. The attempt to do too much.

REFERENCE BOOKS.

227. *For Teachers:*

History Topics for the High School and College, W. F. Allen.

Methods of Teaching History, Hall, editor. The latter is a collection of essays by representative teachers of history and contains an excellent bibliography. Both these are published by D. C. Heath & Co. of Boston.

Reference History of the United States, Davidson. Ginn & Co.

How to Study and Teach History, Hinsdale. (International Education Series. Appleton).

A Pathfinder in American History, Gordy and Twitchell. Lee & Shepard.

Study of Local History in Wisconsin Schools, R. G. Thwaites. Published in the *Wisconsin Journal of Education*, for November, 1888.

Allen's Reader's Guide to English History. Ginn & Co. Boston and Chicago.

228. *In American History:*

Fiske's *Discovery of America*, 2 vols.

Fiske's *Beginnings of New England*.

Fiske's *American Revolution*, 2 vols.

Fiske's *Critical Period of American History*.

Fiske's *Civil Government in the United States*.

These works of Mr. Fiske, which are published by Houghton, Mifflin & Co., Boston and Chicago, are especially useful to the teacher because of the attention paid to causal connections, and because of the fascinating method of presentation. They cover the period to the Republic, excepting the Southern and Middle Colonies, and the history of the eighteenth century to the Revolution.

Roosevelt, *The Winning of the West*, 2 vols., New York, G. P. Putnam's Sons.

Thwaites, *Story of Wisconsin*, Boston, D. Lothrop Co. (Valuable for the study of local history.)

Mead (editor), *Old South Leaflets*, D. C. Heath & Co.

Hart & Channing (editors) *American History Leaflets*, New York, A. Lovell & Co.

The above leaflets contain extracts from important original documents, and are published at about 5 cents a copy.

Sheldon Barnes, *Studies in American History*, Chicago, Heath & Co., contains many extracts from contemporary documents.

The works of Parkman, Bancroft, Schouler, Adams, Doyle and Curtis will be found useful for reference.

The American Statesmen Series and the *American Commonwealth Series*, (both published by Houghton, Mifflin & Co., Boston and Chicago) afford opportunities for enriching the library at slight expense.

An excellent series, covering the whole period of American history, is the *Epochs of American History*, published by Longmans, Green & Co. It includes *The Colonies*, by R. G. Thwaites; *Formation of the Union*, by A. B. Hart; and *Division and Reunion*, by Woodrow Wilson. *The Colonial Era*, by G. P. Fisher, and *The French War and the Revolution*, by W. M. Sloane, are the first of the five volumes of a similar *American History Series* published by Scribners.

229. A convenient general historical atlas for schools is that of Labberton, published by Silver, Burdett & Co., Boston and Chicago. Students of English History should have access to Gardiner's *School Atlas of English History*, Longmans. In American history, Hart's *Epoch Maps*, published by Longmans, is very good. The teacher would do well to own Freeman's *Historical Geography of Europe*.

230. *In General History:*

Adams. *Manual of Historical Literature*, New York, Harpers.

Andrews. *Institutes of General History*, Silver
Wilson. *The State*, Heath.

There are various series from which selections may be made to enlarge the library of general history. Such are the *Epochs Series* (Longmans) and the *Story of the Nations Series* (Putnam).

231. *In Ancient History:*

Oman. *History of Greece*, Longmans.

Allen. *Short History of the Roman People*, Ginn.

Fowler. *The City-State of the Greeks and Romans*, Macmillan.

232. *In History of Middle Ages:*

Emerton. *Introduction to the Middle Ages*, Boston, Ginn.

Duruy. *History of the Middle Ages*, New York, Henry Holt & Co.

Adams. *Civilization During the Middle Ages*, Scribners.

Myers. *Mediaeval and Modern History*, Ginn.

Murdock. *The Reconstruction of Europe*, Houghton.

Duruy. *History of Modern Times*.

233. *In History of France and England.*

Duruy. *History of France*, New York, T. Y. Crowell & Co.

Gardner. *A Student's History of England* (Illustrated), Longmans.

Green. *Short History of the English People*, Harpers

CONSTITUTIONS.

234. What knowledge is of most worth here? The answer to this question may be indicated by asking another. What will the citizen need and what would be most apt to act as an inspiration to good citizenship? Manifestly one cannot be a good citizen unless he has a fair knowledge of the elementary principles underlying our government. These may be taught by specific examples and illustrations, may be acquired and fixed by intelligently relating them to the history of the times from which they took their ori-

gin. In the light of history the full meaning of principles may be seen. The year devoted to United States history and constitutions (7, 8, 9) should not be broken up by the fast lines that mark the divisions of the course of study. It may be considered that the two subjects are parallel or homogeneous throughout, and a unity of purpose should pervade the work of the year.

235. The machinery of the government, a knowledge of the essentials of which is so important in the practical political life of every citizen, may be constantly studied in connection with the town, municipality and state as the times for voting and for the meeting of the legislative bodies approach. The operation of laws in daily life should be illustrated and no pains spared to bring them to the knowledge of the pupil.

236. Two general systems of teaching are in practice through the state, each of which may be considered reasonable and successful when well handled. By the first the student begins his specific work by study of the local government, and broadens his field of vision by examining in turn the county, state and nation. In the other method the subject is approached from the domain of history and the work is begun with the government of the country as a whole, as based upon the constitution of the United States. Following this come the various modifications which have crept into state governments, particularly that of Wisconsin, while the study of county and town is left to the last. Whichever general system is adopted the specific methods in use should be varied and impressive. The constitutions themselves should be studied and the parts which are of vital importance may be memorized, but the documents as wholes are not inspiring.

237. To comply with the law the constitution of the United States and of the state must both be studied. Each should be viewed in the light of the other, giving the greater attention to that which is of fundamental importance, the constitution of the United States. If the principles of this be understood, the work on that of the state

can be largely devoted to pointing out the things which a local government has made necessary, the places in which the law comes more nearly to the individual, and the variety of subjects taken up which are not included in the more general document.

238. The subject of government in the abstract is difficult and needs so much of illustration that there should be no erring on the side of slavery to the text-book. The government of our own country may be better understood by comparing it with those of foreign nations. Here the relation to general history is apparent. England gives an example of a parliamentary system different from ours. France, though republican in name, is far more highly centralized, while the Swiss govern themselves. The peculiarities of each of these plans should be understood.

239. There may be debates, reports of legislative meetings, moot courts and legislatures. The topical method will be found largely helpful. Congressional reports, legislative journals and newspaper articles should be consulted in relation to pertinent questions. Too minute directions might prove to be a hindrance, for the course of action pursued must be largely dependent upon the facilities offered by the community in which the school is located. Some of the more recent texts will render valuable assistance, especially where there are reasons for using that which adheres to the older and narrower conceptions of the subject. As in history, a variety of books is extremely desirable. It is not necessary that the body of knowledge possessed by any pupil should be identical with that which another has. Fiske's *Civil Government*, Dole's *American Citizen*, and successive copies of the *Blue Book* should be at hand.

POLITICAL ECONOMY.

240. The study of political economy will be chiefly useful to pupils in a high school as an introduction to the serious and thoughtful consideration of the practical affairs of life. Its purpose is not so much to present a body of knowledge as to form a habit and give a basis of estimating economic values and results. To many persons the statement that values originate in labor, and that wealth represents services performed, comes at first as a great novelty. The full realization of the truth and of its bearing on various ways of money getting current in society, comes not from memorizing the text, but from an abundance of illustrations brought out in the class-room, with the usual accompanying comment and criticism. Possibly no other study in the course so urgently demands the conversational method of conducting a recitation, and can so ill endure the verbal memorizing of text-books.

241. Pupils who have studied the condition affecting the production of wealth, including the division of labor, the consequent frequent separation of the capitalist from the laborer and the growth of combinations on each side, should be better able to read intelligently the current discussions of the "labor problem" in leading journals and magazines. If they are led to read such discussions of important questions and to subject the articles to the test of measurement by the principles stated and accepted previously, there may be less satisfaction with dogmatic statements, but there should result a wider interest in human affairs and current news, with a broader toleration of divergent views. Established facts and accepted theories may be made intelligible by copious illustrations. Teachers may make clear what facts and principles are involved in the settlement of any controverted subject, but should avoid all fruitless discussion. Pupils must learn what taxes are, what kinds are known, what arguments are advanced to support them, how their imposition or removal may affect

industries; but all debates having personal or political tendencies are unfortunate. There is no place in a public school for partisanship or propagandism.

A SUGGESTIVE RECOMMENDATION.

Extracts from the Report of a subcommittee of the Board of Visitors to the University for the year 1893-4:

Your committee are of the opinion, based upon the foregoing facts, that the accredited schools are better equipped for leading students to the threshold of the General Science and Engineering courses than to enter the Classical courses. While they do not underestimate the importance of the Scientific and Industrial courses, they regret that our Secondary Schools do not meet the reasonable demands of the university as regards English, Greek, Latin, German and French. They are of the opinion that the study of Greek and Latin under judicious and qualified instructors cultivates the memory, educates the reason, develops the judgment, exercises the taste and imagination, and gives precision in the use of language to a greater degree, in less time, than like results can be obtained by the study of any other branches of human knowledge.

They agree with the late President Porter of Yale University: "If a youth is to be a ship carpenter, an optician, a practical engineer, or to pass his days in the details of some mechanical employment" in such cases a classical education may fairly be regarded as misplaced. But if the object of culture is to give a man the use of his faculties in their most serviceable state, to render him an intelligent and influential member of the community, then there is "in the dispassionate judgment of philosophy" no other method of training the mind better than that which takes classical instruction for the ground work. It is true that Greek and Latin are called the dead languages, but, as Hobbes expresses it "they have put off flesh and blood only to put on immortality." Nor do your committee undervalue the importance and utility of German, French and Anglo-Saxon. They recognize the fact that a man needs some knowledge of these as well as of the Greek and Latin to enable him to use an English Dictionary.

In conclusion your committee would suggest to the Board of Visitors the following:

Fourth: That no school be placed upon the accredited list in the programme of which English is not taught at least four hours a week during the four years' course, and that energetic, and if necessary, drastic means be adopted to secure at least respectable attainments in spelling, composition, and legible writing before admitting a student to any College of the university.

PART III

LAWS AND COMMENTS.

THE FREE HIGH SCHOOL SYSTEM.

242. The statutes relating to high schools are given in consecutive order, and bear numbers to correspond with the same sections in Sanborn & Berryman's Annotated Statutes. The catch words introducing the sections, and some references to court decisions are, by permission of the editors, taken from the same source.

ESTABLISHMENT OF FREE HIGH SCHOOLS.

243. How established—Not to apply where—SECTION 490. (*As amended by Ch. 245, 1879.*) Any town or incorporated village or city or school district, which contains within its limits an incorporated village, or which has a graded school of not less than two departments, with not less than twenty-five pupils prepared to begin a high school course, may establish and maintain not exceeding two high schools, in the manner and with the privileges herein provided. The question of establishing such schools may be submitted by the town, school district or village board, or common council, at any annual or duly called special meeting, or election, upon written resolution therefor, proposed for adoption: *provided*, notice of such purpose embodying such resolution, be given in the manner provided for notifying a special district meeting, town meeting, or charter election. The vote shall be taken by ballot, and canvassed according to the statutes for conducting elections in such municipality, those ballots in favor being written or printed "For high school;" those opposed, "Against high school." If the resolution be adopted, such towns, school district, village or city shall constitute a high school district. But no city, incorporated village or school district in which a high school heretofore established has been reported, recognized and aided as a free high school, shall be required to take any vote on the resolution provided for in this section, but may continue to report and to receive aid on due compliance with the law in other respects. 280. 281. 1.

244. Towns may unite in establishing—SECTION 491. Two or more adjoining towns may unite in establishing and maintaining any such high school. The resolution proposing the same shall be approved and submitted, and the notice of election signed by at least two supervisors of each town, and the election shall be notified and conducted in each town as provided in the preceding section. Such resolution shall not be adopted unless a majority of the votes cast in each town be in favor thereof. The votes shall be canvassed at the first election and all subsequent elections in the several towns, as at town meetings; and the supervisors of the several towns proposing to unite shall, within one week after such elections, meet and canvass the votes and certify the result to the town clerk of each town. If such resolution be adopted, the several towns so voting to unite shall constitute a joint high school district.

245. State aid, how obtained—SECTION 491a. (*Sec. 1, Ch. 352, 1885.*) Whenever any town in which no graded school exists or when any two adjoining towns in which no graded school exists, shall vote to establish and maintain a free high school, as provided in sections 490 and 491, revised statutes, and such free high school shall have been established and maintained in the manner now provided by law for establishing and maintaining free high schools, for at least three months, and when the high school board of such town, or of such two towns adjoining which unite to maintain such school, shall make the report required by section 496, revised statutes, in order to obtain the aid furnished by the state of Wisconsin, in the maintaining free high schools, they shall append thereto a certificate, to the effect that such school is established and maintained in a town or by towns wherein no graded school exists.

246. Schools classified—Amount of state aid—SECTION 491b. (*Sec. 2, Ch. 352, 1885.*) Upon receiving the reports and appended certificate provided for in section 1, of this act, it shall be the duty of the state superintendent to make a separate and distinct class of the schools thus established and maintained in towns where no graded schools exist, and each such school shall be entitled to receive from the general fund of the state annually, one-half the amount actually expended for instruction in such school, and the state superintendent shall fix the amount to be paid to each of said high schools and certify the same to the secretary of state, at the same time and in the same manner as he is now required to fix the amount to be paid to high school districts, and certify the same to the secretary of state. On such certificate, at any time after the first day of December, the same shall be paid to the district treasurer out of the state treasury; but the whole amount so paid shall not exceed twenty-five thousand dollars in any one year to

this class of free high schools, and if more is demanded by such districts, they shall be paid proportionally. The secretary of state shall annually include and apportion in the state tax all such sums as shall have been so paid, in addition to the amount authorized to be paid in aid of free high schools by section 496, revised statutes, and in addition to all other sums to be levied for the year.

247. The principal purpose of the first act was to encourage the establishment and maintenance of free high schools in towns where there are none but ungraded district schools. But few of these towns took advantage of the assistance thus tendered, and the remainder of the appropriation is now devoted to the high schools established in connection with graded schools.

248. Five different organizations are authorized to establish and maintain free high schools, to wit: a town, two or more towns, an incorporated village, a city and a school district containing a village or a graded school of two or more departments.

249. The first step in organizing any one of these schools is the posting of notices of a purpose to vote on the question of the adoption of the system, as specified in Paragraph 243. The town board, village board, district board, or the common council of the city, must notify the electors of a purpose to hold an election for voting on the resolution that is recited in the notice. When two or more towns purpose to unite in establishing a free high school at least two members of each board interested must sign the notices. (244)

250. The second step is to take the popular vote by ballot, and if a majority of the ballots cast read "For high school," the resolution must be declared carried and the action should be recorded. A director, a treasurer and a clerk should be elected, in conformity to Sec. 492. But in single districts the district board becomes ex-officio the free high school board, and in cities that are not under the jurisdiction of county superintendents, the board of education likewise becomes the free high school board. When two or more towns unite in forming a free high school district a special election of free high school officers must be held subsequent to the vote on the organization of the high school. Due notices of such election must be posted by the respective town boards.

ORGANIZATION AND MANAGEMENT OF FREE HIGH SCHOOLS.

251. **Officers — Terms — When existing boards to be officers**—SECTION 492. (*As amended by Sec. 2, Ch. 245, 1879.*) The officers of each such district shall be a director, treasurer and clerk, whose term of office shall be each three years beginning with the annual town meeting and until his successor shall have been chosen or appointed; *provided*, that

at the first election the clerk shall be chosen for one year, the treasurer for two years, and the director for three years; and all of said officers may be chosen first at the same election at which the question of establishing a high school is submitted, to take their offices, if the resolution therefor be adopted. Thereafter such officers shall be elected at the annual town meeting or charter election. The votes cast shall be canvassed, and the results declared and certified, as provided in the preceding sections. But in all cities not under a county superintendent, which now constitute free high school districts, or which shall hereafter adopt the resolution provided for in section four hundred and ninety, and become free high school districts, the board of education in each such city shall be the high school board, and the city treasurer shall be *ex-officio* the treasurer of the high school district, unless the board of education embraces a treasurer; and in all districts maintaining a graded school of not less than two departments, which now constitute free high school districts, or which shall hereafter adopt said resolution, the district board in each such district shall be the high school board; and the district treasurer shall be the treasurer of the high school district.

252. Duties of officers — Bond — Report — SECTION 493. (*As amended by Sec. 3, Ch. 245, 1879.*) The officers aforesaid shall constitute the high school board, and as such board and as such officers shall conduct the affairs of such high school district on the same general plan provided for a school district, and shall have and possess, with respect to such high school district, all the powers, including all such as may be conferred by vote of a district meeting, and be charged with all the duties, conferred and imposed in these statutes on the district officers and district board of a school district, applicable to such high school district; the treasurer shall give a like bond, to be approved and filed in a similar manner. The high school district clerk shall make a similar report to that provided in section four hundred and sixty-two, omitting the first subdivision. They may grade such school, and establish the branches of study to be taught therein, under the advice of the state superintendent. Every forfeiture and punishment enacted against neglect or violation of duty in a school district officer, shall be held equally to apply to a high school district officer for like neglect or violation. The reports of free high schools in cities not under a county superintendent shall be included in the reports from such cities to the state superintendent, made by the city superintendent or clerk of the board of education.

253. The officers, if elected, are to bear the same names and are elected for the same terms as like officers in school districts. In cities independent of the county superintendent, the board of education, and in single districts

the district board, becomes the free high school board, without action on the part of the people at the time of voting on the adoption of the system.

254. The duties of the several officers and of the boards are similar to those of district officers and boards. The clerk is to report directly to the county superintendent, but in cities independent of that officer, the report must be made by the city superintendent or by the board of education, and incorporated in the report of other matters to the state superintendent. Section 496 (268) provides for a financial report to be made in duplicate for each free high school directly to the state superintendent

255. **Schools free—Qualifications of Principal—Course of study**—SECTION 494. (*Sec. 4, Ch. 245, 1879, Ch. 146, 1881, and Ch. 445, 1891.*) All such high schools shall be free to all pupils resident in the district. Every principal of any high school hereafter elected or appointed, shall in addition to his qualifications as teacher of a common school, be a graduate of some university, college or normal school, or shall hold a state certificate, or shall pass an examination in the studies required to be taught in any such school; provided, the state certificates authorized by the laws of Wisconsin, and the certificates authorized by section 1, of chapter 242, of the laws of 1885, as amending chapter 325, of the laws of 1883, shall legally qualify their holders, both as principals and as teachers of common schools; and each principal and each assistant teacher in a free high school shall be eligible to teach only on approval of his certificate by the state superintendent; and the high school boards or boards of education having charge of such schools, shall determine, with the advice and consent of the state superintendent, the course of study and minimum standard of qualifications for admission to the same. **1. 13. 10.**

256. The state superintendent will require each assistant in such schools to furnish evidence of his qualifications to teach every branch assigned him in the school course. Every assistant in a free high school who does not hold a state certificate or a countersigned diploma should therefore secure the superintendent's approval of his qualifications before the beginning of the fall term of school. Only thus can he make a legal contract, or the school be entitled to the aid provided by law. Each assistant should send to the state superintendent, to be approved, the highest certificate the local authority is authorized to issue, and which continues in force during the time for which he wishes his certificate. Should he desire to teach branches that are not included in this certificate, he should secure standings before the state board of examiners.

Diplomas from reputable colleges and state normal schools not in the state will receive due credit if accompanied by proper certificates.

257. Chapter 156 of the laws of 1893, so intimately relates to the high schools, that it is inserted here. **1. 10. 255.**

DIPLOMAS.

258. Wisconsin colleges, university and normal schools—When a legal license to teach—SECTION 1 (Chapter 156). Any diploma which, by law the state superintendent is authorized to countersign, and which, when so countersigned, has the force and effect of an unlimited state certificate to teach in the common schools of the state, shall constitute a legal license to teach in any public school in the state without further examination, for such period from the date of issuance of said diploma, as, by existing laws, the holder thereof is required to teach before said diploma may be countersigned by the state superintendent.

259. Certificate from normal schools—When a legal license—SECTION 2. A certificate from the elementary course of the normal schools shall constitute a legal license to teach for one year in any common school without further examination; provided, that a limited state certificate and a certificate from the elementary course of the normal schools shall not qualify the holder as principal of a free high school having a four years' course of study.

260. Diplomas from other colleges and universities—when countersigned.—SECTION 3. After any person has graduated at any incorporated college or university, whose courses of study are fully and fairly equivalent to the corresponding courses of study in the state university, and after such graduation has successfully taught a public school for sixteen school months, the state superintendent shall have authority to countersign the diploma of such teacher, after such examination as to moral character, learning and ability to teach as to said superintendent may seem proper and reasonable, and after having ascertained that the course of study from which such person has graduated is fully and fairly equal to the corresponding course in the state university.

261. Countersigned diplomas, qualifications to teach.—SECTION 4. Any person holding a diploma granted by any such aforesaid college or university, certifying that the person holding the same is a graduate of such college or university, shall, after his diploma has been countersigned by the state superintendent, as aforesaid, be deemed qualified to teach any of the public schools of the state, and such diploma shall be a certificate of such qualification, until annulled by the state superintendent.

262. Certificates from other states—when countersigned.—SECTION 5. Teachers' certificates, granted by other states, which are fully and fairly equivalent to the Wisconsin unlimited certificate, may be countersigned by the state superintendent. The holder of such certificate shall furnish to the state superintendent such evidence of

good moral character, experience and success in teaching as is required for the unlimited state certificate. When countersigned, such certificates shall have the force and effect of the unlimited state certificate.

263. SECTION 6. All acts or parts of acts in conflict with the provisions of this act are hereby repealed.

264. The only diplomas that the state superintendent was authorized to countersign at the time of the passage of this act were those granted by Wisconsin universities, colleges and normal schools. The reference in Sec. 1, can, therefore, include only such diplomas. Graduates of the state university, specified under section 458c, Sanborn & Berryman (p. 66, c ode), and graduates of the normal schools may have their diplomas countersigned by the state superintendent after one year's successful teaching in the public schools of the state subsequent to graduation. Graduates of the state university, mentioned under Sec. 387, and the graduates of Wisconsin institutions recognized under chap. 209, laws of 1880, may have their diplomas countersigned after two years' successful teaching as indicated above. Satisfactory testimonials as prescribed by law, will be required. The diplomas specified in the first case constitute a valid certificate for one year. Those in class two constitute a valid certificate for two years.

265. It should be noted that the diplomas of normal schools located without the state are not included in the provisions of this law. The holders of such diplomas must obtain legal qualifications as teachers of common schools before they can make a valid contract to teach in a public school.

266. Taxes, how apportioned — Payments, how made. — SECTION 495. The high school board shall, annually, on or before the second Monday in September, meet and determine the amount necessary to be raised by tax for the support of such high school, and certify the same to the proper town, city or village clerk; if a joint high school district, they shall certify to the town clerk of each town, the proportionate amount thereof to be raised by such town, such proportion to be determined according to the total valuation of all the taxable property in such town as equalized by the town boards of review. Such tax shall be assessed on the next tax roll by such clerk or other officer making the same, and collected and returned as other taxes, and paid to the high school-district treasurer. Such moneys shall be paid out only on orders drawn and countersigned as prescribed in case of school-districts. Any town which is a single high school district may, by resolution adopted at the annual town meeting limit the amount to be raised for high school purposes in such town, during such year. In case of a joint high school-district, the town boards of the several towns embraced may, by a joint resolution adopted by

all such town boards before the first day of July, likewise limit the amount to be raised in such district.

267. The certificate of the amount of tax necessary to be raised is to be made in September. Towns having a high school may, by vote, limit the amount of tax, and the tax in joint high school-districts may be likewise limited by the town boards; but otherwise the amount of annual tax levy for this purpose is finally determined by the board.

268. State aid, amount of, how obtained—Levy of taxes for—SECTION 496. (*As amended by Sec. 5, Ch. 245, 1879, Ch. 273, 1883, Ch. 420, 1885, Ch. 466, 1889, and Ch. 332, 1891.*) Any high school district which shall have established a free high school, according to the provisions of these statutes, and shall have maintained the same for not less than three months in any school year, shall be entitled to receive from the general fund of the state, annually, one-half the amount actually expended for instruction in the high school of such district, during such school year, over and above the amount required by law to be expended for common school purposes, but not to exceed in one year five hundred dollars to one district. To obtain such aid, the high school board, or, in cities not under a county superintendent, the president and secretary of the board of education, and the treasurer, shall, on or before the first day of November, report in duplicate to the state superintendent, under their oaths, the amount actually expended for instruction, during the previous school year, specifying the several items thereof, with the date and object of each, fully. Thereupon, the state superintendent shall fix the amount to be paid such high school district, and certify the same to the secretary of state, with one of such reports annexed; provided, the state superintendent shall be authorized to withhold the certificate from any free high school district for reasons based upon failure to comply with the laws relating to free high schools, which reasons he shall have transmitted in writing to the free high school board thereof, on or before the thirtieth day of the preceding June. On such certificate, at any time after the first day of December, the certified amounts shall be paid to the district treasurer out of the state treasury. The secretary of state shall annually include and apportion in the state tax all such sums as shall have been so paid, in addition to all other sums to be levied for the year. Hereafter, when by any neglect or omission, any free high school shall fail to have apportioned to it, its share of state aid under this act, the state superintendent may, after the time hereinbefore fixed for such apportionment by him, fix an amount ten per centum less than the amount which such free high school would have been entitled to, had it complied with the pro-

visions of this act, and certify the same to the secretary of state, with the report of such district or districts annexed thereto, and the secretary of state shall thereupon draw his warrant for such amount or amounts in favor of such district or districts. The whole amount annually paid under the provisions of this section shall not exceed the sum of twenty-five thousand dollars, and if more be demanded by such districts, they shall be paid proportionally; provided, however, that if the whole amount authorized to be paid annually in aid of free high schools in towns having no graded schools, by chapter 352, of the general laws of 1885, is not demanded or expended under the provisions of that law, then the unexpended balance of the amount therein annually authorized to be paid in aid of free high schools in towns having no graded schools, may be added to and apportioned among the free high schools provided for in sections 490 and 491, of the revised statutes; but no more than fifty thousand dollars shall be apportioned to both classes of free high schools in any one year as now provided by law. 13. 23.

269. The amendment to section 496, made in 1889, by chapter 466, is found in the provision at the end of the section, and its application results in making fifty thousand dollars available for the schools, giving preference as before to town high schools.

270. The amendment to this section, made in 1891, commences with the twenty-third line and is as follows:

"Provided, that the state superintendent shall be authorized to withhold the certificate from any free high school district for reasons based upon failure to comply with the laws relating to free high schools, which reasons shall have been transmitted in writing to the free high school board thereof, on or before the 30th day of the preceding June."

271. The whole design of this amendment is to protect the schools whose officers do comply with the law from loss of money on account of participation in the aid by schools whose boards do not conform to the law. The state superintendent is required by law to approve the qualifications of each principal and each assistant in the free high school and to approve its course of study. If deficiencies shall be known to exist in any school in these or other essentials for the successful work of the school, the state superintendent will correspond with the board in relation thereto. If the subjects of inquiry are found to be practices that are in neglect or defiance of laws relating to these schools, the state superintendent will transmit to the free high school board notification of a purpose to withhold the certificate from the secretary of state, as provided in the amendment.

272. Every free high school may share in the aid offered by this section if it shall have maintained a school taught by qualified teachers for three months of the year for which aid is sought; shall have established and

maintained a course of study approved by the state superintendent; shall have expended during the year for instruction in the high school, exclusive of the cost of maintaining a common school, an amount equal to twice the sum claimed as aid, and shall report as required by the section.

273. State superintendent to supervise schools.—SECTION 496a. (*Ch. 325, 1883, as amended by Ch. 242, 1885.*) 1. The state superintendent shall prepare a course or courses of study suitable to be pursued in free high schools, publish the same, and furnish them upon application for the information of localities contemplating the maintenance of free high schools. He shall exercise such personal supervision and make such personal inspection of the work of all free high schools organized under the provisions of the statutes of this state as they seem to require, and other duties of his office may warrant; and he may call to his assistance in the work of inspection and supervision of free high schools, the professor of theory and art in the university, and occupy so much of his time as will not interfere with a proper discharge of his duties in connection with the university; he shall examine, or cause to be examined, all teachers of high schools required by law to pass special examinations to qualify them for teaching in high schools, and grant certificates to such as pass examinations satisfactorily, which certificate shall be in such form and for such time as he may prescribe, and shall authorize the holders to teach in such special place or places, or in the whole state as the qualifications of the candidate may warrant. The course of study herein authorized to be prepared shall include instruction in the theory and art of teaching, and organization, management and course of study of ungraded schools, and all examinations of teachers shall include examinations upon these subjects. 7. 8. 9. 152.

274. The state superintendent shall furnish suitable blanks for annual and special reports for all free high schools, which shall include the number, age and sex of all pupils enrolled, the number in each class or year of the course of study, the number pursuing English branches only, the number completing the course of study each year, and such other statistics as may be deemed necessary.

Blanks for the annual reports will be mailed by the state superintendent to clerks in May, and for the financial reports in August.

SUPERVISION OF FREE HIGH SCHOOLS.

275. Inspector of free high schools—SECTION 165*d*. (*Ch. 426, 1889*.) 1. The state superintendent is hereby authorized to appoint a person of suitable qualifications to assist him in visiting, inspecting and supervising the free high schools of the state, and to aid in giving information and needed assistance to localities in organizing and maintaining free high schools in towns where no graded schools exist.

276. Salary—2. The person appointed pursuant to the provisions of this act shall receive an annual salary of eighteen hundred dollars, and reimbursement for all actual and necessary expenses incurred, payable monthly upon the certificate of the state superintendent, from the annual appropriation to encourage the establishment of free high schools provided in chapter 352, of the general laws of 1885.

277. Other duties—3. The person hereby authorized to be appointed by the state superintendent may be assigned such duties in the office of the state superintendent when not engaged in the specific duties enumerated in section 1, of this act, as the said state superintendent may determine and designate.

278. This provision virtually supersedes the provision of chapter 325, laws of 1883, amended by chapter 242, laws of 1885 (273) authorizing the professor of theory and art in the university to be called to assist in the supervision of free high schools. It is not designed to supplant county or city superintendents by state supervision, but to advise and cooperate with them in plans for the improvement of the schools under their immediate charge.

VALUE OF DIPLOMA — DUTY OF BOARD.

279. Graduates of high schools entitled to certificates.—SECTION 452*a* (*Ch. 311, 1885*). The high school board of each town, incorporated village, city or school district, which contains within its limits an incorporated village in this state, in which there is, or shall hereafter be maintained a free high school, according to the provisions of law, shall make out and deliver to each graduate of such respective high schools at the time of graduation, a certificate of his standing in the various branches which he has pursued in such school, and any such graduate who shall have duly passed an examination for and received a first grade certificate from the county superintendent of

schools of the county where he shall then reside or shall have so graduated, upon furnishing to any county superintendent satisfactory proof of having successfully taught at least one school year under such first grade certificate, such county superintendent may countersign such certificate of graduation or diploma and the same when so countersigned shall have the same force and effect, for all purposes, of a first grade county certificate for the period of four years, from and after the time when the same is so countersigned. 11, 12.

FORMS.

280.

FORM OF RESOLUTION PROPOSED. (243) (1.)

In order that the question of establishing and maintaining a high school in the town of —— may be submitted to the electors thereof for determination, the following resolution is hereby proposed for adoption:

Resolved by the town board of the town of ——, That a high school be established and maintained in said town.

The town clerk is directed to give notice that said resolution will be submitted to a vote at the annual town meeting (*or general election*) to be held in said town on the —— day of ——, 18—, (*or at a special town meeting or election to be held on the —— day of ——, 18—, which the town clerk is hereby required to call upon due notice.*)

Dated this —— day of ——, 18—.

(Signature of Town Board.)

If two or more adjoining towns propose to unite, Form No. 1 should be voted upon by the town board of each town, and favorable action by each is essential as preliminary to the notices contemplated in the following:

281.

FORM OF NOTICE—SUBMITTING PROPOSITION TO VOTE. (243) (1.)

Notice is hereby given to the electors of the town of —— in the county of ——, that at a special election which is hereby called (*or at the annual town meeting or general election*) to be held in said town on the —— day of ——, 18—, the following resolution will be submitted to the vote of said electors.

Resolved, etc. [as in the foregoing]; and that at said election members of the high school board will be chosen, to take their offices if said resolution be adopted, the clerk for one

year, the treasurer for two years, and the directors for three years; their respective terms of office beginning with the annual town meeting.

Dated this — day of —, 18—.

(Signed.) ———, *Town Clerk.*

The above forms may be used with the proper changes, in the case of incorporated villages, or graded school-districts, the call and notice to be signed by the village or district clerk.

In case the call is for special school-district meeting, it must be signed by at least five legal voters of the district, and the notice given at least six days before the time appointed.

If other matters are to be acted upon at the meeting, as authorizing the board to borrow money, to build a schoolhouse, etc., the notices will be modified to include such propositions.

282.

Form of certificate to be forwarded to the state superintendent to secure participation in apportionment to free high schools. 245.

This may certify that on the — day of —, 18—, the legal voters of the town of —, [or towns of —, where two or more towns unite, or of school-district, No. —, town of —, where vote is by a school-district, or city, or village] adopted a resolution to establish and maintain a free high school in said town (or towns, or school-district), and the persons whose names are hereunto appended have been duly elected to the office appended to their names, respectively. We further certify that no (or one or more) graded school exists in said — of —. The course of study adopted by said high school board for said high school is herewith submitted for the approval of the state superintendent, and the names and examination papers of —, pupils prepared to enter said high school, who are residents of said town (or towns, or school district) of —, are herewith forwarded for inspection. The examination of these pupils was held on the — day of —, 18—, and was conducted by—.

Dated at —, —this — day of —, 18—.

——— } *Director,*
 ——— } *Clerk,*
 ——— } *Treasurer.*

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MANUAL
OF THE
FREE HIGH SCHOOLS
OF
WISCONSIN.

Third Edition.
(REVISED.)

L. D. HARVEY,
State Superintendent,
1900.

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L. D. HARVEY, State Superintendent.

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MADISON, WIS.:
DEMOCRAT PRINTING COMPANY, STATE PRINTER,

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INTRODUCTION.

This *Manual* is intended to aid in interpreting the laws relating to free high schools; to furnish information regarding their establishment, organization, and management and to offer suitable suggestions as to the scope and character of the instruction in such schools.

In this, the third edition, the work has been thoroughly revised and rearranged in accordance with the experience of the office and suggestions received from many critics.

Part I contains general suggestions and the courses of study; Part II, comments on the courses and suggestive methods of teaching; Part III, the laws under which the schools are organized and maintained.

References are made to the *Manual of the Elementary Course of Study for Common Schools*, tenth edition, by number of the paragraph as: ¶14.

PART I.

General Suggestions.

GENERAL SUGGESTIONS.

ORGANIZATION.

For guidance in organizing and conducting a free high school, inquirers are referred to Part III of this Manual which contains the laws relating to free high schools. Correspondence is invited by the State Superintendent.

QUALIFICATIONS OF TEACHERS.

High school teachers should not neglect or fail to obtain the necessary and proper legal qualifications. *Without such qualification, no valid contract can be made with the high school board, nor is the teacher entitled to pay from the public funds.* Under no circumstances should the work of teaching be entered upon before the proper legal qualification has been obtained.

Any high school board employing a teacher without legal qualification, by such action renders the high school district liable to loss of state aid.

Any one of the following named documents is considered a sufficient legal and educational qualification for the position of principal or assistant in any high school:

1. The Wisconsin unlimited or life state certificate.
2. A diploma granted upon the completion of a regular collegiate course in the University of Wisconsin, or upon the completion of the full course of any Wisconsin state normal school, if countersigned by the state superintendent of Wisconsin.
3. A special license issued by the state superintendent, for one year, to the holder of either of the above diplomas.
4. A diploma from an incorporated college or university whose regular collegiate courses of study are fully and fairly equivalent to corresponding courses in the University of Wisconsin.

sin, or a diploma granted by a state normal school, whose course of study is fully and fairly equivalent to the advanced courses of study in the Wisconsin state normal schools, when countersigned by the state superintendent of Wisconsin, upon the recommendation of the Wisconsin state board of examiners.

5. A special license issued by the state superintendent of Wisconsin for two years to holders of the above described diplomas upon the recommendation of the state board of examiners.

6. A teacher's unlimited state certificate from another state, which has been countersigned by the state superintendent of Wisconsin upon the recommendation of the Wisconsin state board of examiners.

7. A diploma granted upon the completion of the course of study of the Milwaukee high school and the normal department thereof, if countersigned by the state superintendent of Wisconsin.

LIMITED STATE CERTIFICATES AND ASSISTANTS' CERTIFICATES.

A limited state certificate, gained by examination given by the Wisconsin state board of examiners, qualifies the holder during the life of the certificate for the principalship of a free high school having only a three years course of study.

A certificate granted upon the completion of the elementary course prescribed for Wisconsin state normal schools, if countersigned by the state superintendent, legally qualifies its holder for the principalship of a free high school having only a three years course of study, but not for the principalship of a high school having a four years course of study. A special license issued by the state superintendent for one year, to the holder of a Wisconsin normal school elementary certificate gives like legal qualification to its holder.

Any person desiring to occupy the position of assistant in a free high school, who does not hold (a) some one of the above named documents, or (b) a county superintendent certificate, as provided by chapter 333, laws of 1895, and laws amendatory thereto, *should first obtain a certificate from the superintendent of the city or county in which he intends to teach,*

which certificate should be of the first grade and issued on a written examination. If his position as assistant requires him to teach branches not named in the certificate thus held or obtained, he will be required to pass a satisfactory examination in such branches under the direction of the state superintendent. *To enable assistants properly to qualify for their positions, the subjects they are to teach should be determined and made known to them by the high school board as early as possible. High school assistants whose certificates expire June 30th of the current year, should secure certificates for the next year before making a new contract.*

All documents described above are subject to the inspection and approval of the state superintendent, under section 494 of the revised statutes. *For this reason every diploma or certificate relied upon as a legal qualification must be forwarded to the state superintendent for approval before its holder can complete a legal contract with any high school board.* This requirement does not necessarily apply to Wisconsin state certificates, to properly countersigned diplomas, or to properly countersigned state certificates from other states.

Elementary certificates from normal schools of other states, limited state certificates from other states, or diplomas granted upon the completion of any special course of any kind in any institution can not be given legal recognition.

MANAGEMENT.

It is presumed that the high school board will formally vote to clothe the principal of the free high school with authority to classify, grade, and direct the instruction of the high school pupils; and will in all high schools excepting those of town, and of city organization under a city superintendent, likewise authorize the principal to supervise, classify, and direct the work in the grades below the high school. If no such authority shall be delegated for control of the grades, some one member of the board should be formally named by the board to act with the principal in this matter, but in no case should the board withhold from the principal the power of organizing and classifying the high school, and of promoting to his school by an examination, the pupils of the next grade below the high school at such seasons as shall be named by the board.

The board should maintain such relations with the teachers of the high school as shall afford thorough coöperation in all the important activities of the school; should at due seasons institute appropriate financieing, so that funds shall be provided for liquidating the expenses made necessary by contracting with a sufficient number of competent teachers; should arrange for the purchase of text, reference and record books, and stationery; and should provide needed furniture, and apparatus for illustrative teaching.

The dates of opening and closing school terms for the year commencing July 1, should be planned early enough to afford the items as information for transmission in a special report blank that is mailed to high school clerks, yearly in July by the state superintendent.

The principal is responsible to the local board and to the state superintendent for such service in directing the study of pupils, as in the instruction afforded by himself and assistants, shall conserve orderly habits of individuals and of classes, thus assuring wholesome intellectual procedure of the entire school. He is responsible for the habits of patient study, character of recitation, and intellectual progress of each student. He should see to it that all school records, including final standings, shall be posted to date; should maintain a tidy school house and respectable closets, and such detail in regimen as shall promote excellent scholarship and citizenship.

The board should hold the principal strictly responsible for administering the work in exact accordance in time and sequence with the assignments made in the courses of study that have since August, 1899, been formally adopted by the board and approved by the state superintendent, certified copies of which have been mailed to each school and filed in the office of the state superintendent. It is imperative that the approved courses shall not be changed in any particular without the written approval of the state superintendent. It is expected that all provisions of approved courses will be in operation by September, 1900.

Parents' counsel should be invited at the opening of the fall term, in determining the course of study for each pupil; pupils should be steadily held to such chosen work, extraordinary cases excepted. Appropriate recitation programs should be framed throughout the year, that will admit of recitations of each pupil, in conformity to the needs of his course.

Examinations should be so organized for the first year class as to teach the art of preparation of examination papers in proper form. Thereafter examinations should be held at such times and should be of such scope and character in each branch, as to furnish appropriate records for guidance of the board in awarding certificates of graduation.

The principal should maintain the standard for admission to the high school that is fixed for graduation from common schools, and should by appropriate instruction specially extend the knowledge of any pupil who reveals deficiencies in elementary scholarship. The program of daily work should, so far as practicable, present an alternation of periods of recitation and study.

A program of study, as well as of recitation, displayed upon the bulletin board at the opening of school terms, will aid pupils in establishing proper habits. The recitation program should have a permanent place in the study room for the guidance of teachers, pupils, and visitors. It is recommended that all persons occupying the high school room, be required to preserve such order at all times as will enable students who care to study, to do so under favorable circumstances. This regimen will not only secure "order," but it will present favorable opportunity for such added study as will set pupils free on any evening that parents may select.

Good text-books should be selected and adopted by the board. Appropriate direction for their preservation and use should be given in connection with instruction in method of study.

The teacher in the high school should always bear in mind that in the recitation it should be his aim to secure on the part of each student the largest amount of well directed mental activity and the best possible expression of the results of that activity. Something definite should be assigned for preparation for each day's recitation and definite demands should be made upon the pupil in the way of recitation.

The pupil, and not the teacher, should make the recitation. There are times when it is proper for the teacher to add to the pupil's knowledge of the subject, but he should not do this to the extent of leading the pupil to rely upon the teacher rather than upon himself.

The pupils should have something to say in each recitation, and they should have an opportunity to say it without interruption by the teacher.

The teacher may question to *test* the pupils' knowledge, power, or skill, or he may question to stimulate and direct thought; neither will be done wisely without clearness of thought and definiteness of plan on the teacher's part. Asking too many questions is a greater error than asking too few.

Many teachers fall into the habit of repeating the pupil's answer when correct in matter and form. This should be avoided.

COURSES OF STUDY.

The state superintendent is authorized by law to personally supervise the free high schools, and to appoint a person to aid in such duty. Section 496a of Wisconsin Statutes reads: "The state superintendent shall prepare a course of study suitable to be pursued in free high schools. * * * The course of study herein authorized to be prepared shall include instruction in the theory and art of teaching, and the organization, management and course of study of ungraded schools, and all examinations shall cover these subjects."

In compliance with this statute, courses have been published and are commended to the consideration of boards, as recited in form hereinafter.

All courses adopted by boards must be approved by the state superintendent in order that the school may share in the apportionment of the state aid. Any changes in these courses after adoption and approval, without the consent of the state superintendent, will jeopardize the state aid, and no changes in the courses can be approved for operation during a school year. All negotiations for change should be perfected so as to inaugurate actual changes in the course on the opening of the fall term.

Every school board must adopt and offer an English course of study which shall bear no foreign language; therefore, when only one course is administered, it must be the English course.

For the four years English course there must be two teachers,—the principal and one assistant at least.

For the English and Modern Classical courses, a principal and two assistants are required. If the Modern Classical course be adopted, the General Science, and the Latin course may be included without any additional teaching force.

If the Modern Classical course is not adopted and the General Science, or the Latin course, or both, be adopted, a principal and two assistants are required.

If the Ancient Classical course be adopted in addition to the English and any one other course, a principal and three assistants will be required.

It is to be understood that the above are the minimum requirements for teachers in free high schools. Many schools will, according to enrollment, require more teachers than are named herein.

Each high school having a course of three years must have at least one teacher who shall devote all his time to the high school.

RECORDS.

Boards should provide for the high school two record books sufficiently large to serve for several years. In a form like the following, should be kept the term or semi-term standings:

Arithmetic.				Grammar.			History.			Etc.
A. B.	75	83	78	98	79	86	88	84	83
	88			83			83			
C. D.										

The other should record the final standings only, and may be ruled as follows:

Name.	Arith- metic.	Grammar.	History.	Etc.
J. S.	83	88	79	

The book records should be kept posted to date so as to afford reliable references at any time, for promotions, reports, and for granting certificates of graduation.

ENGLISH

FOUR YEARS COURSE.

FIRST YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Algebra.	Algebra.	Algebra.
Physical Geography.	Physical Geography.	Botany.
Composition.	Composition.	Composition.
Literary Readings.	Literary Readings.	Literary Readings.

The work in composition shall cover the essentials of English including such study of grammar as is necessary.

SECOND YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Expressive Reading.	Bookkeeping or Arithmetic.	Constitutions.
Botany.	Physiology.	Physiology.
History of United States.	History of United States.	Constitutional History of United States.
Literary Readings.	Literary Readings.	Literary Readings.

THIRD YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Geometry.	Geometry.	Geometry.
History.	History.	History.
Political Economy.	Advanced Composition.	Advanced Composition.
Literary Readings.	Literary Readings.	Literary Readings.

FOURTH YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Psychology.	Theory and Art of Teaching.	Review Arithmetic and Grammar.
Physics.	Physics.	Physics.
Literature.	Literature.	Literature.
Literary Readings.	Literary Readings.	Literary Readings.

The services of two teachers are essential for administering this course of study.

MODERN CLASSICAL

FOUR YEARS COURSE.

FIRST YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Latin.	Latin.	Latin.
Algebra.	Algebra.	Algebra.
Physical Geography.	Physical Geography.	Composition.
Literary Readings.	Literary Readings.	Literary Readings.

SECOND YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Latin.	Latin.	Latin.
Geometry.	Geometry.	Geometry.
History of United States.	History of United States.	Constitutional History of United States.
Literary Readings.	Literary Readings.	Constitutions.

THIRD YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Latin.	Latin.	Latin.
German.	German.	German.
History.	History.	History.
Literary Readings.	Literary Readings.	Review Arithmetic and Grammar.

FOURTH YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Latin.	Latin.	Latin.
German.	German.	German.
Physics.	Physics.	Physics.
Literary Readings.	Theory and Art of Teaching.	Literary Readings.

GENERAL SCIENCE FOUR YEARS COURSE.

FIRST YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Algebra.	Algebra.	Algebra.
Physical Geography.	Physical Geography.	Botany.
Composition.	Composition.	Composition.
Literary Readings.	Literary Readings.	Literary Readings

The work in composition shall cover the essentials of English including such study of grammar as is necessary.

SECOND YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Expressive Reading.	Bookkeeping or Arithmetic.	Constitutions.
Botany.	Physiology.	Physiology.
History of United States.	History of United States.	Constitutional History of United States.

Literary Readings.

THIRD YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
German.	German.	German.
Geometry.	Geometry.	Geometry.
History.	History.	History.
Literary Readings.	Literary Readings.	Review Arithmetic and Grammar.

FOURTH YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
German.	German.	German.
Literature.	Literature.	Literature.
Physics.	Physics.	Physics.
Literary Readings.	Theory and Art of Teaching.	Literary Readings.

LATIN

FOUR YEARS COURSE.

FIRST YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Latin.	Latin.	Latin.
Algebra.	Algebra.	Algebra.
Physical Geography.	Physical Geography.	Composition.
Literary Readings.	Literary Readings.	Literary Readings.

SECOND YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Latin.	Latin.	Latin.
Expressive Reading.	Bookkeeping or Arithmetic.	Constitutions.
History of United States.	History of United States.	Constitutional History of United States.
Literary Readings.	Literary Readings.	Literary Readings.

THIRD YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Latin.	Latin.	Latin.
Geometry.	Geometry.	Geometry.
History.	History.	History.
Literary Readings.	Literary Readings.	Review Arithmetic and Grammar.

FOURTH YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Latin.	Latin.	Latin.
Literature.	Literature.	Literature.
Physics.	Physics.	Physics.
Literary Readings.	Theory and Art of Teaching.	Literary Readings.

ANCIENT CLASSICAL

FOUR YEARS COURSE.

FIRST YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Latin.	Latin.	Latin.
Algebra.	Algebra.	Algebra.
Physical Geography.	Physical Geography.	Composition.
Literary Readings.	Literary Readings.	Literary Readings.

SECOND YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Latin.	Latin.	Latin.
Geometry.	Geometry.	Geometry.
History of United States.	History of United States.	Constitutional History of United States.
Literary Readings.	Literary Readings.	Constitutions.

THIRD YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Latin.	Latin.	Latin.
Greek.	Greek.	Greek.
History.	History.	History.
Literary Readings.	Literary Readings.	Review Arithmetic and Grammar.

FOURTH YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Latin.	Latin.	Latin.
Greek.	Greek.	Greek.
Physics.	Physics.	Physics.
Literary Readings.	Theory and Art of Teaching.	Literary Readings.

ENGLISH

THREE YEARS COURSE.

FIRST YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
English Grammar.	Composition.	Composition.
Physical Geography.	Physical Geography.	Botany or Elements of Agriculture.
Algebra.	Algebra.	Algebra.
Literary Readings.	Literary Readings.	Literary Readings.

SECOND YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
History of United States.	History of United States.	History of United States.
Botany or Elements of Agriculture.	Physiology.	Physic ¹
Expressive Reading.	Constitutions.	Ge ² as.
Literary Readings.	Literary Readings.	Literary Readings.

THIRD YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Arithmetic or Bookkeeping.	History.	History.
Physics.	Physics.	Physics.
Plane Geometry.	Plane Geometry.	Theory and Art of Teaching.
Literary Readings.	Literary Readings.	Literary Readings.

STANDARD OF ADMISSION.

The standard established in the examination for the organization of the free high school, must not be lowered after the establishment of the school. The minimum of admission to all the free high schools, is the standard prescribed for completion of *The Course of Study for Common Schools*. If pupils whose scholarship is below such common school standard are taught by any high school teacher, an appropriate deduction must be made from the total amount which the board reports expended for high school instruction. This may mean reduced apportionment of state aid.

The following is the summary of the course laid down in *The Manual of the Elementary Course of Study for Common Schools* and will assist in determining the requisites for admission to the high schools. Close study of the Manual will reveal the force and meaning of this summary. References to that publication are inserted to facilitate comparison.

READING, ¶ 49.

The pupil should have acquired:

Ability to read intelligently and expressively any selection in the Fourth Reader.

Ability to give a clear statement of the meaning of the words used.

The ability to modulate the voice in stress, volume, pitch, rate, inflection, and quality.

Ability to recite with good expression choice selections of prose and poetry of an amount equal to six pages of the reader.

Ability to use the dictionary intelligently.

SPELLING, ¶ 228.

The pupil should spell correctly through force of habit whatever he writes. He should have the habit of consulting the dictionary in all doubtful spelling. He may be fairly tested by his spelling in examination papers, by a promiscuous list of fifty or more words, and by applying the principal rules of spelling.

WRITING, ¶ 229.

The pupil should have the ability to write legibly and neatly, and to prepare papers in good form.

GRAMMAR, ¶ 83.

The pupil should be able :

- To give clear and grammatical oral and written expression to his thoughts, and to use capitals and punctuation marks correctly.
- To use a vocabulary that is sufficient for the precise expression of his thoughts.
- To use nouns, pronouns, adjectives, and verbs correctly in the construction of sentences, as suggested in the outline of work.
- To separate easy composition into component sentences; sentences into principal and modifying elements, and to apply rules of construction.

GEOGRAPHY, ¶ 216.

The pupil should be able :

- To read maps readily.
- To sketch in outline each of the continents, to state approximately their relative sizes, using Wisconsin and the United States as units of measure.
- To locate the system of water-partings and drainage slopes of each continent.
- To locate and tell something about some land and water forms,—some city, or other point of interest included in the course of tracing lessons.
- To describe important areas of production, especially those of his own country.
- To draw a map of Wisconsin from memory, with a fair degree of accuracy.
- To comprehend clearly the system of reckoning standard time; also the method of surveying public lands, with practical applications.
- To show by means of drawings the course of constant and periodic winds and of ocean currents, and to explain the causes and effects of the currents.

ARITHMETIC, ¶ 172.

The pupil should show:

1. Ability to analyze problems involving applications of percentage indicated in the course of study, problems in proportion, and in mensuration of surfaces and solids when geometrical formulas are not employed. This analysis should show a logical train of thought properly expressed.
2. Ability to indicate by arithmetical symbols the operations necessary to the solution of problems in the classes mentioned above.
3. Ability to extract square and cube roots by some one method and to give an explanation of the process used.
4. Ability to state original practical problems of the various classes indicated in 1, and to solve them.
5. Skill in writing the various kinds of business forms in common use, and in performing by short methods the computations required in ordinary business transactions.
6. Ability to define arithmetical terms used, and to state rules for performing operations.
7. Accuracy and rapidity in performing the work required above, are essential requisites for completion of the work of this Form.

PHYSIOLOGY, ¶ 265.

The pupil should be able to give the general structure of the alimentary, respiratory, and nervous organs of the body,—their chief functions, and the well established laws of health, with intelligent reasons for considering them.

CONSTITUTION, ¶ 281.

It is expected that both history and constitutions will have been studied before the pupil enters the high school. It is unnecessary to make a summary of the preliminary work that should be done in those branches, but reference is made to *The Manual for Common Schools*, under the head of "Constitutions."



PART II.

Subjects and Methods.

GENERAL SUGGESTIONS ON SCIENCE TEACHING.

Science in the high school is designed primarily for the purpose of getting simple information from text books and by observing phenomena; later the purpose is toward classification, so as to lead pupils toward possible inductions, and to confidence in themselves that shall in turn profoundly stimulate their activities. The discipline gained by having (a) a definite aim, (b) a definite method to accomplish this aim, (c) the power of careful and accurate observation, (d) the ability to reach correct conclusions, is important. The extremes of these purposes are found: (1) In the instruction which attempts to teach mere text-book, without the assistance of a suitable laboratory or sufficient apparatus. This is manifestly a most serious mistake, and no instructor should attempt the teaching of a scientific subject unless the school has a proper room or place to carry on experimental work and can provide itself with a suitable amount of apparatus to make the subject practical. (2) In those schools in which the pure laboratory method is followed. Here the text-book is abandoned and pupils are set at work to rediscover all the laws and reaffirm too many of the principles that have concerned the scientists of past ages. It is unfortunate that in many high schools the teaching force is inadequate to give careful supervision to laboratory work, for without efficient supervision such work is likely to be worse than useless. Whatever laboratory work is done should be under the close supervision of a competent instructor. The high school laboratory is no place for a pupil teacher.

The instructor in science should undertake to strike the golden mean between these extremes. The text-book is a valuable adjunct to the study of science and its utility should be fully appreciated. Each subject under consideration should first be thoroughly studied in the text to gain all the possible knowledge concerning the details which have been worked out by others; with this knowledge as a basis the teacher should

direct experiments which are intended to confirm the statements of the text,—returning to the text after the experimental work has been performed, with a view of clinching the principles under consideration.

Economy in experiment is a feature of science teaching which the instructor must study with care. Schools may waste time in permitting the pupils to spend days in proving phenomena that are already familiar,—as that heat expands and cold contracts. One or two experiments, supplemented by the common-sense which most American children possess, is sufficient to demonstrate the truth of the law. Every science teacher should plan the entire work for the period of its continuance, before he begins his teaching, blocking out the amount of time which he can allow to each phase of the study. As he proceeds, he should keep strictly within the limits established. The simple principles should be passed over somewhat rapidly, allowing more time for the demonstration of the more difficult problems.

So far as possible the pupils themselves should do the actual experimental work. They should handle the material. The instructor will find, however, that some independent supplementary experiments and illustrations will be profitable.

Too much importance cannot be attached to drawings in connection with all laboratory work. It is not necessary that the pupil be an artist in order to outline in the note book a representation of the apparatus or material used. The instructor should see that each drawing, though not artistic, is accurate in outline and details.

Physics and botany furnish the best opportunities for thorough science teaching. They are practical subjects, having an intimate relation to our every-day life. Providing a suitable laboratory and sufficient apparatus as aids, is no great burden for school districts. Physiology and physical geography are likewise practical subjects. No special laboratory is required, however; the apparatus used in physics and botany can be employed in these branches.

Psychology is worthy of students' attention, and pedagogy, though chiefly beneficial to the prospective teacher, gives information which every intelligent citizen should possess.

SUGGESTIONS.

The field of original investigation is beyond the high school student; it belongs to the college post-graduate.

Experiments for display and entertainment are appropriate for evening shows, but are not productive of the best results for the student of science.

Laboratories should be provided with suitable tables and blackboards. They should be well lighted and provided with means for darkening the windows.

The pupils can, under the direction of the teacher, make much simple but useful apparatus outside of school hours. The caution here is, however, to employ the pupils as students of science, not as carpenters and blacksmiths.

PHYSIOLOGY.

The work in physiology should cover, in a general way, the work outlined in any good text-book, as Overton's Physiology, or Martin's Human Body. The study should be made as objective as possible, special emphasis being given to diagramming organs and systems at the time they are studied, and suggested experiments made when possible. Too much attention should not be given to details, but the fundamentals should be thoroughly taught.

The work should give to the student a clear idea of the living body, the divisions of bodies into organic and inorganic, into plants and animals, of what is meant by the structure of a body, anatomy, physiology, hygiene, cell tissue, membrane, gland, muscle, tendon, blood vessel, nerve, lymphatic, bone, and joint. There should also be a clear notion of the kinds of work done in the human body and of the systems by which it is accomplished.

The knowledge of the digestive system should include a knowledge of what constitutes food, and the classes of food which are taken into the system, together with a knowledge of the system as a whole, the function and structure of its organs, including the mouth, tongue, teeth, salivary glands, pharynx, esophagus, stomach, pancreas, liver, small intestine, and large

intestine. There should also be a clear understanding of and ability to diagram the two routes by which the digested food goes into circulation (by blood vessels and lymphatics), as well as the ability to trace the steps in the digestion of the different classes of food, and to state the laws of hygiene for the system.

In connection with the circulatory system, students should be able to give the plan of the system as a whole, the function and structure of the organs of circulation, including the heart, arteries, capillaries, and veins; to show the structure, composition, and function of the blood, and to explain by diagram the pulmonic and the systemic circulation, to show the changes which the blood undergoes in the lungs and capillaries, how animal heat is produced and how regulated, and what is meant by congestion, inflammation, a cold, and a fever.

A knowledge of the respiratory system should include a knowledge of the purposes of respiration, the structure and function of the organs of the system, the movements in respiration, the chemical changes which result from it, the consequent importance of ventilation, and Nature's provisions for keeping the air pure. The dissection of the heart and lungs of a sheep or other mammal, and a diagram of the circulatory and respiratory systems combined, would be of value to the student at this point.

The study of the secretory system should result in knowledge of the secretory organs and the functions of their secretions. The organs thus studied should include the mucus and serous membranes, synovial membrane, salivary glands, lining membranes of the stomach and intestines, liver, pancreas, oil glands, lachrymal glands, and the lining of the ear.

The knowledge of the absorbent system should include the method by which the waste matter is taken from the tissues and expelled from the body as perspiration, and by the lungs, and kidneys. In this connection, there should be a study of the skin, its structure, appendages, and functions.

As the result of the work on the osseous system students should be able to give the composition, structure, classes, and uses of bones; the parts of the skeleton in the head, trunk, upper and lower extremities; means by which parts of the skeleton are united, kinds of joints, and the hygiene of bones, especially with relation to children.

For the muscular system there should be a knowledge of the

structure, function, general arrangement, position, and attachment of muscles, together with rules of hygiene, in connection with exercise and rest.

As a result of the study of the nervous system, the student should be able to show the necessity of a nervous system, to diagram in a general way the cerebro-spinal and the sympathetic systems, to describe the two kinds of nerve tissue, with the function of each, to illustrate and explain what is meant by an impression, sensation, and reflex nervous action; to diagram and state the function of the parts of the brain and spinal cord, to describe by diagram the crossing of the nerve fibers in the cord and the medulla oblongata, and to show the effect of injury to either side of the brain or spinal cord, and to trace the course of the nerve current in reflex action; to show the knowledge gained through each sense acting alone, and to diagram the nerves of the ear and eye, describing by means of the diagrams acts of hearing and of seeing, and to show reasons for defective hearing and vision.

There should be a clear notion of the action of alcohol and other stimulants and narcotics upon the human body.

PHYSICAL GEOGRAPHY.

This is a branch of study that involves the elements of all the sciences. It is therefore necessary for the instructor before he begins the subject to ascertain what knowledge the pupils have of botany, physics, geology, astronomy, chemistry, etc. If they have had training in nature work and elementary science in the grades, the study of physical geography may not be found difficult.

In some instances it will be found necessary for the instructor to revert to some of the elementary principles of the sciences involved.

The aim of the teacher in physical geography should be to have the pupil acquire a knowledge of the relation of earth to man, which must necessarily involve a thorough study of the immediate environment of man.

After establishing a definite aim for each recitation, the teacher should carefully ascertain what things the pupil must know in order to realize this aim; what of these things *are*

now known, and proceed accordingly with the instruction, teaching what remains to be known.

As text-books differ in the subject-matter treated, it is recommended that the study of physical geography shall include the following general considerations, consuming the time allotted to the subject in the high school.

1. The earth as a planet and its relation to the solar system.
2. A brief geological history of the earth with special reference to Wisconsin and the United States.
3. The land distribution and the relief of its various divisions,—volcanoes and earthquakes.
4. The water distribution, continental drainage, erosion, waves, tides, ocean currents, glaciers, and geysers.
5. The atmospheric movements and their causes, with a careful study of climate and its causes.

(If time permits, the following subjects may be pursued:)

6. The human race as distributed.
7. The animals and plants as distributed.
8. The economic products, including variety of soil, distribution and use of coal, ores, building stone, and natural gas.

The practical side of the subject should not be neglected. The rivers, creeks, lakes, hills, valleys, railroad-cuts, storms, the sky, day and night,—all furnish an opportunity for personal observation. The laboratory will probably furnish apparatus for demonstration, such as:

A thermometer.

A barometer (its construction should be taught).

A centrifugal hoop.

A cylinder and bucket for determination of specific gravity.

An electrical machine.

Bar magnets.

Magnetic needles.

Ball and ring to show expansion and contraction.

Air pump.

A prism or spectroscope.

Relief maps, a good globe or tellurian, and a spherical black-board are needed in this study.

PHYSICS.

The first element of success in teaching physics is to *interest* the members of the class in the subject. It is a comparatively easy matter to accomplish this end, owing to the fact that this branch deals with matters of every-day observation, such as light, heat, sound, motion, electricity, etc. Owing to this fact, illustrations in every department of physics may be drawn from daily experiences. Moreover, many of the principles of physics can be readily demonstrated so that students may see the beauties which exist in the phenomena of nature. When their interest is thoroughly aroused, even the obscure parts of the subject acquire a new meaning through their connection with the parts which are more easily understood.

A demonstration of a principle in physics fixes it in the student's mind so that in recalling an experiment which he has seen he will not fail to grasp the principle which that experiment illustrates. No other science lends itself to exhibition more easily than physics, and there are few of its principles which cannot be illustrated before a class. In all cases it should be pointed out that the law of nature operates whenever the operator supplies the necessary conditions, and it is the object of the experiment, and, indeed the object of the study of physics to observe and to study the laws of the universe.

The teacher should remember that the pupil is not likely to grasp a subject at first presentation, and that it must be approached from many sides and with many illustrations. Even then a student does not fully comprehend the subject till he himself has dealt with it, and therefore it is desirable that students not only repeat the experiments shown by the instructor, but that others be devised, tending to make clearer the principle. This should be done by the class in small sections, if the class be large, and not during the hour of recitation. Whatever subjects are studied, the experiments which the students themselves perform should not be undertaken in the laboratory until after the corresponding subjects have been studied in some good text-book and thoroughly discussed and illustrated in class. In other words, the laboratory practice in any department of physics should follow and not precede the work of the text. Moreover, there should not be assigned to the student in the laboratory any experiment which does not

illustrate some important scientific principle. The students should record all results, and conclusions in a neatly kept note-book, which the teacher should read and correct.

The following plan of note-book may be suggestive:

I. *Aim*.—What is the object of the experiment; what do you expect to prove or determine?

II. *Method*.—Give briefly the details of the apparatus and the preparation made to perform the experiment.

III. *Observation*.—As a result of your experiment, note carefully what you see.

IV. *Conclusion*.—As a result of your observations, what conclusions do you reach?

A certain amount of equipment and apparatus is required for the experimental part of the instruction. While much of this must be purchased outright, much more may be extemporized by the ingenuity of the instructor and the students. In choosing the apparatus for a school whose appropriations must remain small, such pieces should be selected as are capable of being used for a variety of purposes. The following list, which can be purchased for about one hundred dollars, is suggested as one with which every high school should be first equipped. If a less sum than one hundred dollars is available, purchases should be made in the order given.

1½ doz. glass beakers — 3, 5, 7, 9, 13, 18 oz.	\$1 00	
1 doz. assorted test tubes.	30	
10 ft. ¼ in. rubber tubing.	80	
½ doz. ordinary drinking glasses.	25	
4 tin cups.	20	
½ doz. old bottles of different sizes.	00	
1 lb. glass tubing.	50	
Assorted corks at local druggist's.	25	
1 doz. assorted rubber corks, with and without holes.	50	
1 alcohol lamp.	50	
5 lbs. mercury.	3 50	
1 chemical thermometer, Farenheit and centigrade scales. .	2 00	
1 common thermometer.	20	\$10 00
1 iron retort stand, three rings.	50	
1 wood test-tube holder.	30	
1 10-in. beam balance.	5 25	
1 set metric weights, 100 grams to 1 centigram.	2 50	
4 meter sticks at 25c.	1 00	19 55
1 ball and ring for expansion.	75	

1 air pump and receiver	\$20 00	\$40 30
2 bar magnets at 50c	1 00	
1 magnet needle on stand.....	75	
1 flint glass prism, flat ends.....	1 00	
2 double convex lenses at 75c	1 50	
3 tuning forks on resonant boxes.....	6 00	
1 plunge battery (4 cells).....	10 00	60 55
1 astatic needle galvanometer.....	4 00	
1 electric motor	1 00	
1 small incandescent lamp.....	50	
1 set of glass capillary tubes	75	
1 lb. No. 18 single cotton covered copper wire.....	25	
1 induction coil, $\frac{1}{4}$ in. spark.....	5 00	72 05
1 telegraph key and sounder	3 00	
1 Gage's "seven in one" apparatus.....	7 00	
1 Grova's disk for illustrating wave motion.....	50	
1 resistance box, adjustable.....	4 00	86 55
1 electrical machine	15 00	
1 iron whirling table.....	4 00	
1 Leyden jar	1 00	106 55

Additional apparatus should be purchased in the following order:

1 set single and double pulleys (at local hardware dealers)..	\$1 00	
1 cylinder and bucket for specific gravity work	2 00	
1 electro magnet.....	1 25	
1 hand dynamo.....	30 00	\$34 25
1 set collision balls	5 00	
1 Leyden jar, movable coating	2 00	
1 set apparatus for centrifugal force.....	3 00	
1 Tyndall's apparatus for specific heat.....	2 00	
1 blackboard for composition of forces.....	10 00	56 25
1 sonometer.....	8 00	
1 fine syringe	2 00	
4 tuning forks giving chord.....	10 00	
1 apparatus for coefficient of expansion.....	5 00	
1 hollow insulated brass ball.....	5 00	
1 set model pumps.....	5 00	
3 Leyden jars.....	4 00	
1 Wheatstone slide wire bridge.....	8 00	103 25
1 set Ampere's frames.....	10 00	
1 hydrostatic press	20 00	
1 thermo pile.....	5 00	

1 Wheatstone's bridge, box form.....	\$25 00	\$163 25
1 spectroscope.....	25 00	
1 compound microscope.....	25 00	213 25
1 projecting lantern with vertical attachment.....	40 00	
1 analytical balance and weights.....	35 00	288 25

BOTANY.

The aim that should be insisted upon in the teaching of botany in the high schools is purely a pedagogical one, namely, to make of the student to just the extent of the botany studied, a more perfect, more powerful man or woman. When the course is completed, the teacher should be able to recognize something definite and positive as having been accomplished in each of the following points:

The development of originality and independence of thought.

The ability to see the relation between cause and effect.

The faculty to observe closely, and to see a thing in all its parts and bearings.

Training of the hand to express exactly and neatly, either by words or by drawings, what the eye sees and the mind conceives.

Fixed habits of patient, unremitting inquiry.

The *practical* question for the teacher of botany is simply this: What to select for his pupils to study and how to set them about it?

The first thing that should be done is to work out the conditions of plant life and economy, as illustrated by typical, closely related flowering plants. One might say to a class beginning the study of botany: "We are to investigate during the course upon which we are now starting, the question of *Getting on in the world from the standpoint of a plant*," (as, for example, a geranium in full flower placed before pupils). "We want to find out by very careful study and experiment the conditions, —the elements of *success in life*, considered solely from the point of view of the plants." Obviously this constitutes a *problem*, and a problem just as definite as a problem in algebra, or a question concerning the success of any man or nation. By thus stating a problem that can be clearly comprehended at the

outset, little time will be lost; there will be no rambling or vagueness, and all the attention and energy of the student can be directed at once to the solution of the problem.

In dealing with this problem of *how does the plant succeed in life*, one should begin where the life of the plant begins—with the seed,—and from that point trace its life-history step by step through its development into the adult plant, to the point where the seeds are once more formed, thus completing the cycle of life. Of course, in all the phases and stages of this study of a life history, it is not necessary or desirable for the teacher to confine himself to the same plant or the same species of plants even. It is sufficient that any plants or parts of plants be used that are representatives of a common class.

This work should be done at *first hand*; the student should have in his own hands the plant or its parts under consideration, and should have, moreover, tools and means with which to work. Keep prominent by constant emphasis through the material and work in hand, the great law of *utility*, or *adaptation of structure to purpose*. Lay stress upon the *life* relations of the plant to its environments of soil, air, light, and moisture, and upon the mutual relations and interdependence of the parts of a plant.

In the study of each phase of this life-problem there should be introduced, *just so far as time will permit*, other more or less closely related forms, including the fern and some others of the cryptogams, in order to illustrate the differences arising in different plants to adapt them more perfectly to their peculiar environments; to enable them to win more successfully in *their* struggle for a place in the world. At the same time, if this very important *comparative work* is properly developed by the teacher, it will become apparent to the pupil that there is a singleness, a oneness in essential structures and devices that unifies and simplifies the whole conception of plants. Accurate drawings and descriptions of things studied should be insisted upon, the drawings to be done on good paper with hard lead pencil, and the notes written in ink on the same paper. Moreover, the drawings and notes should be completed at the time the study is made, and should *never be copied*. Such a plan will eventually lead to accurate work done at first trial; while if the student is permitted to make rough sketches and hurried descriptions at the time he is studying the plant, to be "written up" afterwards, he will be encouraged to do careless, superficial observation, and inaccurate work.

Perhaps the most satisfactory note book is one made from heavy paper, which can be obtained from any printing office, cut to a convenient size, and punched for binding in some convenient manner,—the back of an old book or heavy manila cardboard making a good binder. The best pencil for the drawings is a Faber "6 H." Good simple microscopes with hand-rests can be had for \$1.25 each. Enough should be provided by the school, together with dissecting knife and pair of needles, to furnish each student with a set. Most of the work of this course requires no use of a compound microscope; but at times, in order to fully carry out the scheme, its need is imperative, and every high school should be supplied with enough to make it possible for students to personally study the microscopic structure of the things, an understanding of which is necessary to the full solution of the problem they are investigating.

If microscopes cannot be provided, then the teacher must substitute drawings on the blackboard, to be discussed and interpreted by the class together.

If the time of the teacher is so occupied that it is impossible to devote a period distinct from the recitation period to laboratory work every day, it will be found the best plan to alternate the laboratory work with the recitation. Less ground can be covered in that way, but in a much more satisfactory manner than if the students are left to work by themselves. In many cases the ground which the teacher attempts to cover is *far too much*; and the result is a superficial view that breeds a contempt for the study. Be content to do a little thoroughly.

The plan outlined will not only secure the culture for the student, but will result in giving him the fullest information, the *greatest familiarity* with the plant world about him; for there is no limit,—except the limit set by time,—to the *amount of comparative* study that may be done. But a comparative study of plants implies a clearly defined point of departure, —a *type thoroughly* mastered on which to base comparisons; and with *that* accomplished each new plant that is introduced will be alive with meaning based upon its relationships, and these meanings will all fit together to form a perfect whole, instead of being a mass of dead, disconnected facts, or unrelated, unorganized items of information.

For the use of the teacher, the following text and reference books will be found helpful: Spaulding's *Introduction to Botany*, (D. C. Heath & Co.); Coulter's *Plant Relations*, Dar-

win's *Movements and Habits of Climbing Plants*, (D. Appleton & Co.); Bergen's *Introduction to Botany*, (Ginn & Co.); Arthur, Barnes & Coulter's *Handbook of Plant Dissection*, Kerner's *Natural History of Plants*, Bessey's *Botany*, (Henry Holt & Co.); Bower's *Practical Botany*, Miller's *Fertilization of Flowers*, (Macmillan Co.); Bailey's *Collector's Handbook*, (Bates, Salem, Mass.); Gray's *Structural Botany*, and Goodale's *Physiological Botany*, (American Book Co.).

ELEMENTS OF AGRICULTURE.

In the three years course of study prepared by the state superintendent appears Elements of Agriculture as an alternate with Botany. When this subject is taken by a class in lieu of Botany, it is suggested that a text book like James' Agriculture, published by D. Appleton & Co., or Bailey's Principles of Agriculture, published by The Macmillan Co., be made the basis of the work.

Observations of the actual conditions of plant and animal life treated in the text should be made by pupils under direction of the teacher. These observations should be supplemented by illustrative experiments conducted by the teacher.

Goff's Principles of Plant Culture gives a suggestive syllabus of laboratory work which will prove helpful to the teacher. The book can be obtained from Des Forges & Co., Milwaukee.

PSYCHOLOGY.

The study of psychology in the high schools must necessarily be elementary and will be successful in so far only as it is simple and direct. No effort should be made to teach a system of philosophy or to engage in metaphysical disputation. The end will be reached if the pupil is taught what the mind can do and how it does it. A simple scheme of the mental faculties should be presented and the pupil should learn the office of each and the order in which it is developed. Definitions of mental powers and processes should be given, so far as possible, in simple, unequivocal English. When it is found necessary to

use a foreign term, its meaning and the necessity for its use should be clearly shown, and the pupil should be required to use it in his recitations until the term acquires the force and distinctness of a native idiom. The teacher should remember that mental methods can be defined and illustrated only by appeals to individual experience, and that facts and theories are worthless to the student until he finds them there. Fundamental processes, such as perception and consciousness, should be clearly realized by each pupil, but no effort should be made to explain their source.

The influence of the emotions and the will in determining character and conduct may be explained and illustrated. The mind is the instrument through whose activity all accretions of knowledge come. The study of its powers, modes of action and limitations is noble in itself and ought to be rich in results. The examination of the sequence in the unfolding of its powers furnishes the guide lines for student and teacher. The habit of sober and accurate thought which this study necessitates is the prerequisite of wise action. To impart the power of fixing the attention, of holding the mind steadily to the subject in hand is preeminently the province of psychological study, and is the highest outcome of intellectual training.

THEORY AND ART OF TEACHING.

Sec. 496a of the Wisconsin Statutes authorizes the state superintendent "to prepare a course or courses of study suitable to be pursued in the free high school," and specifically states that: "The courses of study herein authorized to be pursued shall include instruction in the Theory and Art of Teaching, and the organization, management, and course of study of ungraded schools, and all examinations shall cover these subjects." It will thus be seen that the state superintendent has no choice in the matter of requiring instruction in the Theory and Art of Teaching in the high schools. Provision must be made for this study in each course excepting the courses in manual training. It should be understood by teachers and members of school boards that this is not a study which is of value to those pupils only who expect to teach in the schools of the state. The pupils in the public schools will soon be in positions where

they will be responsible for the development and maintenance of those schools. The work in Theory and Art of Teaching may be so broadened as to include a consideration of the proper organization of the public schools, the necessity for an intelligent interest in their welfare, and in what is necessary to secure that welfare.

This subject if properly taught, may afford as valuable a training for citizenship as any in the course; it is also of high value as a disciplinary study.

The best text book for use in the study of pedagogy is the Manual of the Course of Study for Common Schools issued by the state superintendent. It should be made the basis of the work in this subject. As an aid to the study of the Manual a good reference library should be provided, containing texts on school management, pedagogy, courses of study, etc.

In the study of the Manual the teacher should emphasize the following:

I. *How to study the Manual.* See that the pupils are familiar with the uses of the numbered paragraphs for cross references, and the meaning of the divisions of each subject; (a) primary form, (b) middle form, (c) upper form.

II. It will be observed that each subject has a general aim with which the pupil should be familiar. Each form has also the three following divisions:

(a) The specific purpose in the work of each subject in each form.

(b) A course of study with suggestions to teachers upon the same.

(c) Tests for promotion.

III. Before leaving the study of the Manual the members of the class should be familiar with the tests for promotion of pupils from each form in all the branches taught in the public schools. It may not be too much to require pupils to memorize these promotion tests.

IV. It will be well to familiarize pupils with the lesson plan and its application as suggested in "Some Fundamentals in Teaching" in the introduction to the tenth edition of the Manual. Drill work with the class in pedagogy in daily recitation plans should give definite ideas of the aim to be accomplished, and the method of reaching it.

When time permits it will be advisable to take the class to observe the lower grades and to see the principles of the Man-

ual exemplified. Some schools carry on practice work in the grades, but this proceeding is of questionable value unless it shall be directed and personally supervised by the principal.

When the study of library reading is begun it will be well for the teacher to have a copy of the List of Books for Township Libraries, prepared by the state superintendent, accessible to the members of the class. Some of the books found in this list can probably be obtained from the school library, and definite instruction as to the best use of these books should be given.

Those students who expect to become teachers should be encouraged to read such books as Page's Theory and Practice, White's School Management, portions of White's Pedagogy, and Miss Arnold's Way Marks for Teachers.

MATHEMATICS.

ARITHMETIC.

Before leaving the high school the student should have ability to secure results accurately and rapidly in addition, subtraction, multiplication, and division of simple and denominate numbers, common and decimal fractions; in factoring numbers less than 100; in finding G. C. D. and L. C. M.; in extraction of square and cube roots; in the mensuration of triangles, quadrilaterals and circles, prisms, pyramids, cones, cylinders, and spheres.

He should be able to form and solve proportions and to analyze problems giving rise to proportions.

He should know the fractional equivalents of the different per cents. commonly used, as well as he knows the multiplication table; be able to find readily any per cent. of a number; to find any number, knowing any per cent. of it; to find what per cent. one number is of another. The student should be able to change problems under each of these three general cases to problems in common fractions and in decimal fractions, and to solve them as such. He should be able to apply the principles of percentage to operations in profit and loss, commission, trade discount, insurance, and taxes, and should be master of one good method of computing interest, and be able to determine the amount due on a note on which partial payments have been made.

When dealing with small, simple whole numbers, and with common fractions whose denominators are twelve or less and with small compound denominate numbers, he should be able to secure correct results rapidly without written work.

He should be able to give a clear analysis of the work in solving problems, and to state in order the processes involved in the solution of problems, not only when the work has all been performed, but when it is indicated without being performed.

Much time will be saved in the work in arithmetic, if the

student will learn to perform the fundamental operations accurately, and in the later portions of his work, indicate or state the operations to be performed in the solution of problems without actually performing them.

Mental training arises more largely from determining what operations are to be performed under certain conditions, than in the mechanical performance of the operations which are always those of addition, subtraction, multiplication, or division.

The student should have the power to state and solve original problems, to illustrate general principles and to furnish opportunities for applying the rules for special cases.

He should be able to state clearly, concisely, and accurately, the definitions of terms commonly used in arithmetic, and to illustrate their meaning by examples or otherwise.

Unless he can improve upon the definitions given in the books, he should learn them as there stated. This statement also applies to the rules for performing operations.

It is not meant that the student should learn the words of the book without a knowledge of their meaning, but that he should understand the meaning of terms in arithmetic and know how to perform operations; then if he cannot improve upon the formulation of definitions and rules given in the books, he should learn those as the orderly statement of what is in his mind. In the solution of problems, students should be able to give reasons clearly and readily for each operation.

Good oral and written expression is as essential as the ability to solve difficult arithmetical problems.

ALGEBRA.

At the conclusion of the work in algebra students should possess the ability to give clear, accurate, and concise definitions of terms commonly used in algebra; the distinction between positive and negative quantities; a clear statement of the processes in adding, subtracting, multiplying, and dividing algebraic quantities; an explanation of the laws governing signs in subtraction and multiplication. They should be able to state and apply the following formulas:

1. The square of the sum of two quantities is equal to the square of the first, plus twice the product of the two, plus the square of the second.

2. The square of the difference of two quantities is equal to the square of the first, minus twice the product of the two, plus the square of the second.

3. The product of the sum and the difference of two quantities is equal to the difference of their squares.

4. The product of the sum or difference of two quantities, into one of them plus or minus a third quantity, equals the square of the first quantity, the sum of the second and third quantities into the first, and the product of the second and third quantities.

5. The cube of the sum or difference of two quantities equals the cube of the first, plus or minus three times the square of the first into the second, plus three times the first into the square of the second, plus or minus the cube of the second.

In factoring, the student should be able to recognize the following described expressions and to factor them :

1. Trinomial squares.

2. The difference of two squares.

3. A trinomial whose first term is a square, and whose last term is the product of two factors whose sum into the square root of the first term equals the second term.

4. The sum or difference of two cubes.

The student should be able to find the greatest common divisor and the least common multiple by the method of factoring; should have a knowledge of and ability to apply axioms on which operations in equations are based; to give clear and orderly statements of steps in the solution of equations with explanation of the process in each case; to translate the language of problems into the algebraic language of equations and the reverse.

With fair ability in the solution of the equations, much of the time ordinarily devoted to the solution of problems may be profitably spent in stating the equations to which the problems give rise, assuming the ability of the pupil to solve the equations without actual performance of the work. The student should be able to state clearly and apply readily laws governing exponents, co-efficients, and signs in raising a binomial to any power; to extract the square and cube roots of numerical and of literal expressions, and to explain fully the process of squaring or cubing a binomial of the form $a + x$, or $20 + 5$; to determine the parts of which the square or cube is composed, and from a consideration of these parts to formulate the steps.

in order in the process of extracting the roots; to make clear and accurate statements as to the force of positive and negative, integral and fractional exponents; to prove that $a^0 = 1$ and that

$a^{-m} = \frac{1}{a^m}$. He should be able to state: when a radical quality

is in its simplest form and how to reduce it to that form; how to change the degree of a radical, how to add, subtract, multiply and divide radicals, and should be skillful in performing these operations. He should have the ability to solve equations containing radicals; also quadratic equations, pure and affected. In a solution of affected quadratic equations of the form $x^2 + 2px = q$, the student should be able to deduce the formula $x = -p \pm \sqrt{q + p^2}$ and to use this formula in dealing with such equations. He should be able to solve simultaneous quadratic equations in the following cases: When one equation is of the first degree; when the equations are symmetrical with respect to x and y ; when each equation is of the second degree and homogeneous; to form a quadratic equation when its roots are known, and from this to show the application of factoring in a determination of the roots of affected quadratic equations. He should be able to discuss fully the general equation $x^2 + 2px = q$, showing the values of the roots for different values of p and q ; to give a general discussion of the properties of proportions, and to solve problems involving the use of proportions.

The character of the student's work in algebra depends as largely upon his ability to make correct, clear, and concise statements of definitions, processes or rules, and steps in the performance of algebraic operations in the solution of problems, and in general demonstrations, as in his ability to perform operations, to solve problems, and to give demonstrations.

GEOMETRY.

Classes commencing geometry usually need some illustrative exercises in the use of the common drawing instruments and in the practical application of a few of the principles of geometry to measurements, to drawing and to the affairs of every day life. Time is frequently saved by such instruction at this stage and interest is certain to be excited.

Since geometry is essentially a disciplinary study, those methods of teaching are best that most tend to develop thought power in the pupils. Two things are essential:

1st. That the subject matter should be so prepared that it is difficult enough to call forth the best effort of the pupil, and yet sufficient help or suggestion should be given so as to prevent his becoming discouraged.

2d. When the lesson has been prepared by the pupil he should be thoroughly tested upon it by questions. He should be called upon, in the demonstration, for instance; to show the relation of each step to the others, the authority for each statement, the reason for the construction employed, etc. In other words, he should succeed or fail in the recitation, as he stands or falls under a series of rigorous questions.

In the preparation of the lesson, *independence should be encouraged*. The minimum amount of growth is acquired by the pupil if he simply reads the author's demonstration and assents to it. Induce him as soon as possible to omit, in his reading, the author's quotation of authority, and to supply it himself from his knowledge of the subject. Exercises adapted to the pupil's stage of advancement should be frequently given.

It is an excellent plan to write out suggestions for the demonstration of one of the propositions of the lesson upon the blackboard, that may enable the pupil to work out a demonstration for himself; or, suggestions may be given for a difficult exercise, or for a demonstration different from the one given.

If the pupils can be induced to be independent, different demonstrations may be produced, and one student may work out more than one. The suggestions should be clear and adapted to the ability of the class.

The student should be led to see that geometry is a logical body of thought, in a sense integral; that it does not consist of many unrelated propositions, but that each is dependent on others and that all have been built up by the combination of a few axioms and simple demonstrated principles.

In review the greater proportion of the work should be original. The time required for this kind of work is not easily estimated, and it is better to err on the side of generosity. Do not explain at the first difficulty, but let the proposition stand as a challenge to renewed effort.

In a review recitation it is well at times to have a pupil give accurately and in order, the propositions upon which a demon-

stration depends. A successful device to stimulate thought and give concentration is that of describing the figure, lettering the lines and then calling upon some student to demonstrate orally from the mental picture he has made.

BOOKKEEPING.

It is not to be supposed that the subject of bookkeeping can receive thorough treatment in the high school. Indeed, it is doubtful if any schools, other than those of our larger cities which are well equipped with a strong teaching force, can take up the subject of double entry bookkeeping.

The most that can be done with bookkeeping in the one term allotted to its consideration is to teach the pupil the uses and practical application of various business forms, including letters, bills, receipts, drafts, checks, telegrams, etc. Drill in these forms will enable the average pupil to become familiar with the minor details of business life and give him a reasonable foundation for the intricacies of bookkeeping as found in the actual business world.

Single entry bookkeeping should be taught and the pupil should be thoroughly familiarized with the meaning of debit and credit, and the different accounts, such as merchandise, individual, profit and loss, bills payable, bills receivable, discount, etc.

HISTORY.

THE PURPOSE OF HISTORICAL INSTRUCTION IN SCHOOLS.

It is now generally agreed that the utility of history as a high school study arises chiefly from the training which the subject affords to the judgment, and secondarily, from the training of the perception, imagination and memory. "To prepare the child for judgments in actual life the materials must resemble as nearly as possible the conditions of actual life. Such materials are found in history and found there in greater degree than in any other subject." The value of historical instruction in preparing students for good and intelligent citizenship is obvious. Aside from the body of information acquired, the weighing of evidence, the comparative study of political systems of other countries and of other times, and the formation of judgments upon men and measures, constitute a training most useful to the future citizen. Dr. Arnold expressed the utility of instruction in history, civics, and economics in the schools very well when he said: "It is clear that in whatever it is our duty to act, those matters also it is our duty to study." The teacher will find a fuller discussion of this subject in the *Report of the Committee of Seven*, and in Hinsdale's *How to Teach and Study History*, chapters i and iv. The importance given to the judgment in historical training should increase with the higher grades; and the judgment itself can best be exercised when the pupil's perception, imagination, and memory supply him with the necessary data. It is hardly necessary to say that by the imagination, in this case, is meant the power of the pupil to place himself in the attitude of the people of other times and of other countries.

It should not be the ideal of history teaching to furnish a bare outline of names and dates, a well proportioned set of pigeon-holes to be filled up in after life. Such a process, however at-

tractive in theory, is not workable in fact; the names and dates come to have less than the value of algebraic symbols of unknown quantities. But it by no means follows that history can be taught without accurate knowledge of the most significant historical landmarks. These are means to an end, and should be so illuminated with concrete detail as to be held as vital elements rather than as a bare and dead weight on the memory. Institutions and men should be made real for the student by sufficient concrete and intelligible discussion of their essential characteristics. As a part of the training in judgment, and in the interest of mental economy, they should be taught to observe lines of causation, to distinguish between the enduring and the fleeting, between the essential and the non-essentials in history, and the important should be made clear, at whatever cost of time. To the objection that this mode of treating historical study as a training in judgment takes more time, the answer of the late Mary Sheldon Barnes is conclusive: "Good friend, it does; and it takes more time to solve a problem in arithmetic than to read its answer; and more time to read a play of Shakespeare than to read that Shakespeare was the greatest dramatist of all the ages; and more time finally to read the American constitution and the American newspaper, and make up your mind how to vote your own vote, than it does to be put into a 'block of five.' *But what is time for?*"

METHOD.

The books mentioned elsewhere, which give bibliographies of works on historical method, render an extensive discussion of the subject here unnecessary. In general, it may be pointed out that the methods should be those which conduce to a training of the judgment. A text-book should, in most cases be used as a basis of work, and to give proportion, order, and definiteness to the instruction. Collateral material, used in additional reading, and in presentation of topical reports, is essential, and this involves a good library as much as modern science teaching involves a laboratory and apparatus. The moderate use of sources for illustration and for disciplinary work akin to laboratory practice is especially helpful in the later part of the course. It aids in training the student to extract the impor-

tant elements out of his reading, develops the critical faculty, and gives the student some impression of the sort of materials out of which the text-book was made. Written work should be increasingly used in the later part of the course; the practice of keeping note books is to be commended.

History should be so taught as to make use of the studies of geography, (physiographic, economic, and political), literature, economics, civics, and similar subjects. All may be made mutually helpful. The use of pictures, of which there are now a multiplicity of cheap reprints, will aid in bringing the architecture, sculpture, and painting of past ages before the pupil; and these are important aids in understanding the culture of a period. Maps and atlases should be constantly used, including outline maps for constructive work. When the student is allowed to make something, whether a topical report or an illustrative map, his interest is aroused, and the subject takes on a definiteness that is well worth the time. Lantern slides make possible a large use of maps and pictures at comparatively slight expense.

REFERENCE BOOKS FOR TEACHERS.

The teacher should have certain recent books which contain discussions of method, bibliographies, library lists, topics, etc. With them he will be able to suit his appliances and methods to the peculiar needs of the school. A brief list of some manuals which satisfy these needs is here given. For general list of reference books in history, see List of Books for High School Libraries issued by the state superintendent, 1900.

The Study of history in Schools. Report to the American Historical Association by the Committee of Seven. The Macmillan Co., 1899.

This committee was appointed at the request of the National Educational Association's Committee on College Entrance Requirements. The Committee of Seven was composed of persons who had experience in secondary, as well as in collegiate instruction, and who studied the actual conditions of history instruction in this country and in Europe, by extensive correspondence and by personal examinations. The Report treats the subject independently of the special needs of the minority who fit for college. It contains the latest and best general discussion of the purposes of the teaching of history in schools, the cur-

riculum, methods of instruction, bibliography of books and articles on the teaching of history, lists of maps, atlases, etc. It is essential to all history teachers.

Channing and Hart, *Guide to American History*, Ginn & Co.

Equally important for teachers of the history of the United States. The book contains a discussion of the place of American History in the curriculum; methods; library lists for small and large libraries; special lists of books of travel, biographies, state and local histories, sources, government records, works of statesmen, sources and illustrative material, periodicals, etc. There are practical chapters on class exercises, readings, written work, tests, etc. The second part of the book consists of a very complete set of topics and references.

Adams (G. B.), *European History: an Outline of Its Development*. Macmillan, 1899.

This contains an admirably selected list of books, useful to the school library and others useful to the teacher, for each period, and there are topical references.

CONSTITUTIONAL HISTORY OF THE UNITED STATES.

In the High School Courses of Study one year has been given to the study of U. S. History, the third term of the year being allotted to the constitutional history of the United States. The importance of this phase of our country's history demands that it should have a larger place in the high school course than has heretofore been given to it. Probably the best text books on this subject are Fiske's *Civil Government*, published by Houghton, Mifflin & Co., and Hinsdale's *American Government*, published by the Werner School Book Co.

In dealing with this subject the teacher should bear in mind the historical events connected with the transformations which have occurred in the development of our present system of government.

Beginning with the landing of the English at Jamestown, and the Pilgrims at Plymouth, definite but different forms of government were brought to our shores and established, and later they played their respective parts in shaping our laws. Their gradual development and westward progress along the parallels of latitude should be traced with the historical development of

the colonies. Attention should be paid to the various powers and functions of the legislative bodies which existed in colonial times, and their processes of growth into existing legislative assemblies.

Of special importance is the study of the transitional period from 1782 to 1789, when the articles of confederation were on trial, and when the present constitution was framed and adopted. Some attention to the history of the constitutional convention as given in the federal papers will be found very profitable. Fiske's "Critical Period" covers this ground admirably. It is also well to know the history of the "bill of rights," which includes the first ten amendments to the constitution; also how the method of election of the president and the vice president was changed by amendment, and the historical story of the amendments which resulted from the civil war.

Aids in this study may be found by reference to Training for Citizenship, ten cents, published by the Werner School Book Co., Chicago; Formation of the Union, 75 cents, published by Longmans, Green & Co., N. Y.

CONSTITUTION OF THE UNITED STATES.

Provision is made by statute for the teaching of the Constitution of the United States and of Wisconsin in the public schools.

A knowledge of the fundamental laws of the land is indispensable to every citizen, and with this end in view the constitutions should be taught, the more important clauses being memorized. The error, however, should not be made of treating the subject in a meaningless, routine manner, for every section and every clause possesses a life which more or less affects our every-day existence. Let the teacher make the branch a practical one, losing no opportunity of bringing out its full meaning by the application of current history or local events. In this way an interest will be excited, and more than all, the great object in the teaching of civil government will be more nearly attained, viz., to create law-abiding citizens. The young people must early learn the duties of the citizen and the individual responsibility of that citizen toward maintaining a stable government for the nation.

CONSTITUTION OF WISCONSIN.

The Constitution of Wisconsin should be treated in its analogies to the national constitution, at the time of consideration of the leading topics of that branch. It will therefore not be necessary to spend much time in a special study of the Wisconsin constitution. In general, the two are much alike. The principal study should be put upon the important parts of the state constitution not already considered in connection with the constitution of the United States. Omit unimportant facts. It will be well to deal with the different forms of governments, as administered in the county, town, village, city, and school districts. These governments come within the immediate knowledge of the children or their parents, and a study of details will be found profitable. It will be well also to take up the subject of elections. The present system of voting, known as the "Australian" method, may be illustrated by securing samples of the ballot. The method of nominations through primary caucuses is important.

If there is a literary society in connection with the school, much assistance can be given to the subject of civil government by providing for debates upon important national questions, for moot courts, and mock legislative deliberations. Every opportunity to visit the state legislature, the county board of supervisors, the town meeting, and other assemblages of governmental character, should be improved. Throughout the entire work on this subject an attempt should be made to have pupils realize the essentials of good citizenship. A knowledge of constitutions and of the details of governmental activities may make more intelligent citizens, but it does not necessarily make better ones.

POLITICAL ECONOMY.

The study of political economy will be chiefly useful to pupils in a high school as an introduction to the serious and thoughtful consideration of the practical affairs of life. Its purpose is not go much to present a body of knowledge as to form a habit of and give a basis for estimating economic values and results. To

many persons the statement that values originate in labor, and that wealth represents services performed, comes at first as a great novelty. The full realization of the truth and of its bearing on various ways of money getting current in society, comes not from memorizing the text, but from an abundance of illustrations brought out in the class-room, with the usual accompanying comment and criticism. Possibly no other study in the course so urgently demands the conversational method of conducting a recitation, and can so ill endure the verbal memorizing of text-books.

Pupils who have studied the conditions affecting the production of wealth, including the division of labor, the consequent frequent separation of the capitalist from the laborer and the growth of combinations on each side, should be better able to read intelligently the current discussions of the "labor problem" in leading journals and magazines. If they are led to read such discussions of important questions and to subject the articles to the test of measurement by the principles stated and accepted previously, there may be less satisfaction with dogmatic statements, but there should result a wider interest in human affairs and current news, with a broader toleration of divergent views. Established facts and accepted theories may be made intelligible by copious illustrations. Teachers may make clear what facts and principles are involved in the settlement of any controverted subject, but should avoid all fruitless discussion. Pupils must learn what taxes are, what kinds are known, what arguments are advanced to support them, how their imposition or removal may affect industries; but all debates having personal or political tendencies are unfortunate. There is no place in a public school for partisanship or propagandism.

LANGUAGE.

COMPOSITION.

I. *Elementary*.—This is required in the first year of all the courses, being a full study for the three-year and the four-year English and German courses, while one term is provided for the Latin, modern classical, and ancient classical courses.

The work in composition during the first year should be confined to the essentials of English. By this is meant not a separate branch, but a concentration of effort upon the essentials. Whatever in grammar is necessary for such work in composition as will give accuracy and facility in expression, either written or oral, should be taught if it is not already known. This knowledge should be utilized and applied through drill in the composition work, until its value is shown in improved written and oral forms of expression fixed as habit.

It is believed that in most cases it will be best to begin the work in composition at the beginning of the year, teaching those portions of the grammar referred to above, whenever their necessity becomes apparent, and always in relation to and as a basis for the composition work. This plan may require some instruction in grammar every day; it may necessitate suspending the work in composition for a day or a week, devoting the time to mastering the portions of grammar needed; but always this work should be followed by such work in composition as will require an application of the grammatical knowledge just required.

This plan will give the pupils something fresh at the beginning of the year, something that will arouse a greater interest than a term's review of grammar. It will concentrate the study of grammar upon the essentials and make clear to pupils the value of these essentials in determining and fixing correct forms of expression. Some most excellent work in oral composition may be done in connection with literary reading by requiring

pupils to prepare for and make oral reports on books read. This work in elementary composition, in order to cover the essentials of English, should include drill and practice in emphasizing the following important features:

1. Punctuation.
2. Capitalization.
3. Abbreviations.
4. The structure of the sentence.
5. The paragraph.
6. The more important figures of speech.
7. Style, which includes choice and use of words.
8. Discourse.

(a) Kinds—descriptive, narrative, imaginative, biographical, etc.

In the classical courses where much attention should be given to the use of good English in translation, it will not be necessary to give so much drill, and a major part of the one term allowed should be devoted to the technical phases of composition correlated with the necessary grammar. In all this work it is well to remember that the structure of the sentence is the nucleus about which all the other phases of the work should gather.

II. *Advanced*.—The work in advanced composition will depend upon the progress the pupil has made in the elementary work of the subject during the first year. A careful determination of the pupils' knowledge of the topics enumerated above should be made to ascertain the starting point in the advanced work. This study does not mean Rhetoric, although much of the work usually embodied in the text-books upon that subject can be done, if the class is sufficiently advanced. The work of the elementary course should be elaborated, continued drill being given in the writing of English as embodied in the letter, essay, and oration. Oral exercises in connection with debates, both prepared and impromptu, should not be neglected, and public speaking by pupils is a most excellent means of training them to use language properly and "to think upon their feet."

EXPRESSIVE READING.

Expressive Reading has become a lost art in our schools. Training the pupil to express properly and clearly in spoken language the thought he has gained from the printed page, has been subordinated to a study of the rhetorical and intellectual phases of literature. It is true much attention has been given to securing the thought, and this is a most essential requirement of good reading.

The purpose of emphasizing the expressive phase of reading in our high schools under the subject "Expressive Reading," is to make better readers. It is not sufficient that the pupil be taught to get the thought from the printed page and to express this thought in logical language to others, but his language must be pleasing and effective. This is the purely mechanical phase of reading.

The idea here is not how much ground is covered in a recitation, but how well the little undertaken is accomplished. Two or three lines a day thoroughly mastered in the art of right expression, is far better than a superficial lesson of several paragraphs or pages. Good models are of inestimable value to the pupils, hence it would be well for the teacher to select different types of literature which represent the various phases of expression and read them to the pupils as he believes they should be read. This suggestion calls into play the teacher's own art of reading and consequently means that he should be thoroughly prepared to practice that which he teaches.

In the teaching of vocal expression the pupils should be drilled in examples which illustrate: (1) force, (2) inflection, (3) time, (4) quantity, (5) pauses, (6) volume, (7) stress, (8) quality, (9) pitch, (10) melody. It is not necessary for the pupils to know the technical definitions of these terms.

Daily drill exercises, occupying the first few minutes of each recitation, in pronunciation as indicated by the use of diacritical marks; in distinct articulation; in emphasis; and in spelling by sound will be found very helpful.

In selecting a text-book for use in Expressive Reading classes, care should be taken to secure a book giving selections covering a wide range in matter and style of composition within the students' comprehension.

The reading of poetry calls for special effort. The sing-song, meaningless renditions of poetry now heard in many of

our schools are a libel upon the pedagogy of reading. The teacher should patiently struggle to overcome these faults and insist upon careful attention being paid to rhetorical pauses and to all phases of reading as indicated above.

The aim in expressive reading should be to develop power and skill in *expressing* the thought of an author in such a manner as to show that the reader understands that thought and enters into the feeling of the author.

The power and skill of the reader should be such as to make the hearer easily understand the thoughts and appreciate the feeling of the author.

Ease on the part of reader and pleasure on the part of the hearer are ends which should always be kept in view.

GERMAN.

It should be continually borne in mind by the teacher that German should be taught in the interest of good teaching and not in the interest of the most expeditious preparation for college. Symmetrical training in the secondary school must keep in view more things than are likely to be "required" of the candidate at his examination for admission to college. The colloquial side of this subject has been much neglected in high schools and the aim of teachers should be not only to secure a ready reading of the German texts but also to give the pupils ability to converse in the German language upon ordinary topics by the time they have completed the work of the second year.

The following courses of study and suggestions are condensed from the report of the Committee of Twelve of the Modern Language Association of America, which may be found in the proceedings of the National Educational Association for 1899, page 732. A copy of the report may be secured by remitting twenty-five cents to Irwin Shepard, secretary National Educational Association, Winona, Minn.; teachers are advised to secure a copy of this report.

THE FIRST YEAR'S COURSE IN GERMAN.

A. *The aim of the instruction.*—At the end of the elementary course in German the pupil should be able to read at sight, and to translate, if called upon, by way of proving his ability to read, a passage of very easy dialogue or narrative prose, help being given upon unusual words and constructions;

to put into German short English sentences taken from the language of every day life or based upon the text given for translation, and to answer questions upon the rudiments of the grammar, as defined below.

B. *The work to be done.*—During the first year the work should comprise: (1) careful drill upon pronunciation; (2) the memorizing and frequent repetition of easy colloquial sentences; (3) drill upon the rudiments of grammar, that is, upon the inflection of the articles, of such nouns as belong to the language of everyday life, of adjectives, pronouns, weak verbs, and the more usual strong verbs; also upon the use of the more common prepositions, the simpler uses of the modal auxiliaries and the elementary rules of syntax and word order; (4) abundant easy exercises designed not only to fix in mind the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression; (5) the reading of from 75 to 100 pages of graduated texts from a reader, with constant practice in translating into German easy variations upon sentences selected from the reading lesson (the teacher giving the English), and in the reproduction from memory of sentences previously read.

THE SECOND YEAR'S COURSE IN GERMAN.

A. *The aim of the instruction.*—At the end of the advanced course the pupil should be able to read at sight German prose of ordinary difficulty, whether recent or classical; to put into German a connected passage of simple English, paraphrased from a given text in German; to answer any grammatical questions relating to usual forms and essential principles of the language, including syntax and word-formation, and to translate and explain (so far as explanation may be necessary) a passage of classical literature taken from some text previously studied.

B. *The work to be done.*—During the second year the work should comprise: (1) The reading of from 150 to 200 pages of literature in the form of easy stories and plays; (2) accompanying practice, as before, in the translation into German of easy variations upon the matter read, and also in the off-hand reproduction, sometimes orally and sometimes in writing, of the substance of short and easy, selected passages; (3) continued drill upon the rudiments of the grammar, directed to the ends of enabling the pupil, first, to use his knowledge with facility in the formation of sentences, and, second, to state his knowledge correctly in the technical language of grammar.

*Suggestions:—*1. Pronunciation:

The first matter of importance for the beginner is the mastery of pronunciation. Drill upon the subject should be kept up steadily and inexorably until right habits are fixed.

2. The memorizing of colloquial sentences:

The proper starting point in teaching German is the vocabulary and phraseology of the language, as represented in its familiar forms of expression.

The teacher must have the sense of being at home in it. A learner's knowledge is to be made second nature, but his faculties and organs must be trained to respond instantly and naturally to the foreign symbols whether they are seen or heard. To accomplish this the learner should memorize easy colloquial sentences. These sentences should be nothing but natural, oft-recurring forms of expression. The pupil's repetitions should be elicited by questions addressed to him in German, the drill should take the form of short dialogues without the use of English.

The object of the drill in colloquial German is not to load the memory with things supposed to be highly valuable in themselves, but to beget confidence through familiarity with the language in its usual and natural modes of expression. As poetry is the language of emotion, which is more or less artificial, it will be advantageous to occupy the recitation with well chosen dialogues. The poems selected for memorizing should be few and short, chosen with reference to the simplicity and naturalness of their expression. The first year's work, however, does not call for many poems.

3. Grammar:

The work in grammar should be taken after a few preliminary lessons, but for several weeks the grammar lessons should be short and easy, so as to allow an abundance of time each day for colloquial exercises and drill upon pronunciation; this practice should be maintained, but as the course unfolds the study of grammar and the performance of exercises directly related to the same may properly be allowed to absorb the increasing portion of the time. Grammar is for the sake of the language, and not the language for the sake of grammar. Let the teacher's maxim be, "Little theory and much application." The important thing is not that the pupil should acquire facility in reciting paradigms, rules, and exceptions, but it is that the learner should acquire facility in understanding and using the language. Right forms must be so held in mind that they

come naturally from tongue and pen; this result will require much repetition, which may at times be tedious, but the time spent upon the elementary drill will facilitate subsequent steps. Teachers should not hasten the pupil to the reading of good literature.

4. Reading Matter:

Aside from the German-English exercises of the grammar, the reading matter of the first year should consist of graduated texts from a reader.

5. Translation into English, sight reading:

It should not be forgotten that the principal object of this branch is to learn to read without translating.

Between the extremes of atrocious English, which should not be endured, and the really good English, which is unattainable, there is a wide belt of what may be called tolerable English; English which is not excellent from a literary point of view, but is at least clear, grammatical, free from gross improprieties in respect to idiom, and reasonably faithful to the meaning of the original. Such tolerable English is all that can be expected in the ordinary routine of the class-room. It is, however, desirable that the learner become aware that there is a higher ideal, and that he have some practice in trying to reach it. To this end a passage in German text should occasionally be given out for a carefully prepared written translation, with instructions to take time and make the work just as good as possible. Such translations should then be criticised by the teacher and compared with one another in the class. Attention should be called to the small points of idiom, arrangement, choice of words, turn of phrase, etc., which make up the difference between the tolerable and the excellent. In this way the pupil's literary sense will be cultivated; he will become familiar with the idea of translation as an art, and the effect will be to improve gradually the quality of his ordinary work.

6. Reproductive translation into German:

It will be observed that the program of work for the second year of the elementary course provides for practice "in the off-hand reproduction, sometimes orally and sometimes in writing, of the substance of short and easy, selected passages."

The language of the original should, of course, not be memorized verbatim; what is wanted is not an effort of the memory, but an attempt to express thought in German forms that are remembered in a general way, but not remembered exactly.

The foregoing is chiefly a condensation from the Report of the Committee on Foreign Languages published with other reports on College Entrance Requirements by the National Educational Association. The report may be had for twenty-five cents by addressing Irwin Shepard, Secretary N. E. A., Winona, Minn.

Every teacher of German should study this report thoroughly.

LATIN.

The course should include four books of Cæsar, which should be completed by the end of the second year, seven orations of Cicero and six books of Virgil. If Cicero be begun before Virgil the latter might be read after four orations and then be followed by the remaining three orations.

For the first work in Latin it is desirable to place in the hands of pupils as concise and simple a statement of the first principles as possible. Therefore great care should be used in the selection of a text, of which there are many good ones. The Beginner's Latin Book by Smiley and Storke (American Book Co.) is one of the best.

The necessity of a thorough acquaintance with the forms of the language is so obvious that it would seem superfluous to call attention to it here. Yet the fact is that no part of Latin preparation is more defective than this. The forms as contained in the lesson book or as referred to in the grammar must be mastered absolutely. Well-directed memorizing, followed by written exercises, dictation, oral practice and frequent reviews, ought to produce good results.

A good class with a good teacher ought to finish a lesson-book in time to do some work preparatory to Cæsar in the first year; for in most cases the transition from an elementary book to Cæsar is too abrupt. If Cæsar is to be read immediately the teacher must exercise great diligence in anticipating the difficulties of the advance lesson and striving by every means to make smooth the somewhat uneven path. The second book of Cæsar is easier than the first. The conference report to the "Committee of Ten" recommends the use of some easy reading, such as *Gradatim*, *Eutropius* or *Viri Romæ*, for this transition period.

The purpose of this study, as pursued in the high school, is not to make pupils skillful in writing Latin, but to enable them

by use to make the forms and syntax of the language more completely their own. The composition of a single Latin sentence, illustrating certain constructions or idioms of the language, will do more to impress these upon the mind of the pupil than half a dozen parsing exercises involving the same points. Latin composition may be pursued by devoting one or more exercises of each week exclusively to this work; or, by means of daily exercises based upon limited portions of the Latin read in class.

This method has the advantage of securing a more painstaking daily review than can usually be obtained otherwise. It does not, however, cover the ground completely; for many special grammatical pit-falls do not occur often in the text of Caesar or Cicero. Special drill, therefore, is required in exceptional cases. The impersonal construction in the passive of verbs followed by the dative, conditional sentences in indirect discourse, the indicative in the conclusion of conditions contrary to fact with verbs of duty, necessity, etc., and the periphrastic forms are constructions of the kind referred to. This method of teaching Latin composition will require untiring zeal on the part of the teacher and great economy of time in the class-room, but it will be rewarded usually by great interest.

In all instruction in Latin the pupil should be made to realize that the order of the Latin sentence is flexible, subject to considerations of emphasis and euphony. What the pupil positively learns about Latin order must depend on what the teacher knows or feels concerning it, for it cannot be learned from rules.

TRANSLATION.

An exact and idiomatic rendering into English of the thought of a difficult Latin sentence is perhaps the chief visible result of Latin instruction, and teachers who are not working to secure that end have in a measure lost sight of the goal. Literal translations are often indispensable by way of explanation and for purposes of illustration, but if they are not at the same time idiomatic, they should always be accompanied by idiomatic renderings. "Translation English" is not only painful to hear but it destroys the linguistic sensibility which all instruction should foster and gives most grotesque conceptions of Roman literature.

Not only should good English be insisted on always, but some effort, varying with the maturity of the class or of the individual pupil, should be made to produce the style of the author translated. The succession of Latin authors read in school is all that

could be wished in this regard. The straightforward narrative style of Cæsar may be reproduced without difficulty by pupils who have not read much in English. In connection with Cicero, translations may be improved and made more spirited by bringing out some characteristics of oratorical English, with examples from speeches of American orators. Milton and Spenser studied in the high school ought to contribute to better translations in Virgil.

The Latin authors read in the high school afford a considerable field for the study of literary form and historical events. This should not be neglected. For example, in Cicero the pupil should be required to analyze the argument of the speeches read and thus to obtain some conception of the form of an ancient oration. It is a good plan to call on some member of the class each day to give orally a synopsis of the review or advance lesson, and at the conclusion of any work the argument should be carefully read, so that each pupil shall carry away a definite idea of the work as a whole, both in respect to form and contents. Every high school library should be provided with a copy of Froude's *Cæsar*, Trollope's *Cicero* and Sellar's *Virgil* (Macmillan)—the last perhaps more especially for the teacher. By judicious reference to them much can be done to stimulate and maintain a living interest in the men whose works are read.

Two pamphlets by Professor William Gardner Hale entitled "*Aims and Methods of Classical Study*," and "*The Art of Reading Latin*" (Ginn & Co.), will be found stimulating and suggestive. *The Art of Reading Latin* sets forth admirably the only natural and rational method of studying a Latin sentence, and even if the teacher does not attempt to put into practice all the suggestions there given, a careful study of the paper will do much to give him a truer conception of the way in which Latin is to be read and therefore to be taught.

LITERATURE.

Introduction: The study of literature is not the study of the history of literature with the occasional poem or fragment of prose thrown in. To stuff the mind with the biographies of authors, and to memorize the list of books they have written is not to study literature. Instead of reading about authors and studying a text-book on literature, the student must come into direct contact with the literature and read for himself. The practice in teaching literature has been to take a few pieces of literature and to spend much time in analyzing each one. The meaning of every word is studied and its derivation traced, figures are pointed out and named, historical facts verified, accuracy of scientific facts tested, every allusion traced until in this process of vivisection the real life has been lost. Great pieces of literature have lived not because they furnish fine fields for mental gymnastics, but because they reveal the deepest, the truest, the most beautiful, the best in life. Literature is an expression of the soul of humanity, of the whole range of human experiences, and the study of literature should consist in the interpretation of the experiences, the thoughts, the feelings, and the aspirations of the race. Dr. J. W. Stearns says:—"Interpretation should consist in such things as the artistic presentation of character types, the setting forth of the play of circumstances in moulding character, the unfolding of the consequences of actions and the might of destiny, the manifestations of the spiritual meaning of material things revealing the charm of beauty in things common, touching into life the springs of noble emotions in us, filling us with a sense of the deeper meanings of life, and enlarging our sympathies."

AIMS IN TEACHING LITERATURE.

The aims in teaching literature should be to inculcate a love and desire for reading, resulting in the formation of the habit of reading; to interpret life; to give power and information; to uplift by giving new ideals and inspirations; and to cultivate a taste for good reading. The pupil ought to be taught how to read, how to handle a book, how to use an index, how to read to a topic, and how to read by skipping.

POETRY.

Poetry portrays the emotional side of life. It breathes the joys, hopes, fears, sorrows, strivings, and aspirations of humanity. It gives us the divine fire of genius, teaches us the love of the beautiful, swings us into the world of imagination, and encourages us to do and to be. A poem is a work of art to be admired, and enjoyed, and felt. Music, beauty, imagination, passion, insight, inspiration, and faith are the essential characteristics of poetry and these are what should be studied.

Music: Read the poetry to the pupils so as to bring out the music and let them read it that way. They will soon find that music is varied, sometimes smooth and flowing; again, rough and broken; sometimes light and quick, again heavy and slow moving. Analyzing a number of poems by a single poet they will find that there is a sameness about his way of singing; that Tennyson's music is varied, polished and exquisite; that Bryant's music is deep, full, and resounding; that Riley's is dainty and light. Comparisons of different poets will lead to a better understanding of each one.

Beauty: Ask the pupils to select the beautiful pictures and read them to the class. Ask them to see these pictures as they are read, and encourage them to admire. Let them gather together the beautiful pictures painted by the poets and compare, and they will find that Scott's pictures are highly colored; that Tennyson gives us exquisite landscapes and beautiful pen portraits; that Byron paints nature in her grandeur; that Lowell's pictures are full of life and beauty. A careful study of how these pictures are painted will bring out that some are

in detail, some in broad strokes, some clearly outlined and some only suggested.

Passion, inspiration, insight, truth and faith: Call for the passages the pupils like best and nearly always they will select those expressing passion, inspiration, insight, truth, and faith. Because they select them, be sure they appreciate them to some degree. As they read more and more, they will come to recognize, name, and understand these characteristics, and to see that they differ in different poets. Do not expect learned discussions. Get them to give themselves up to these influences. They will read Shelley and Milton and exercise their imaginations. They will learn that some poets look deep into the human heart and see beyond the symbol, the essence, and that is insight. They will learn to look for the poet's faith in God and humanity.

THE NOVEL.

Hamilton Mabie says:—"The novel is contemporaneous with a new and deepening consciousness of human relationship and obligation. Today we feel more distinctly than ever before the pervasive influence of other lives upon our lives. We are weighted down as never before by a sense of our incalculable obligations to our fellows. We no longer think of ourselves as alone, but always in the thick of relationships of every kind and quality,—in the solitude of our own souls we are conscious of the whole conscious, suffering world about us."

Fiction: Fiction portrays life on the social side as no other form of literature does. Social conditions, standards, forces, and conventions are revealed, and the problem of the individual life is worked out with full recognition of countless social influences.

Special aims in studying fiction:—

- a. To enjoy the story.
- b. To picture life portrayed.
- c. To judge character portrayed.
- d. To trace character development.

To picture life portrayed study the things which go to make up the life of any community,—descriptions of the environment, character as types, appearance and dress, food, homes and surroundings, amusements, religion, occupation, education, and language.

To judge character portrayed: Character is revealed through description and analysis by the author, by conversation, by action, by feeling and attitude of characters toward each other. Judgments upon the individual character and upon lines of action should be formed from a study of the foregoing points. Conditions, standards, and forces which influence the character for good or evil should be considered.

To trace character development: Trace the changes which take place in the character and study the conditions, ideals, and forces surrounding the character which bring about the changes.

ESSAYS AND PROSE COMPOSITIONS.

Essays and prose compositions reveal the thought of mankind.

The special aims:

- a. To get the author's thought.
- b. To think with the author by seeing relations.
- c. To knit the knowledge gained to what is already known.

To get the author's idea: The first step is to get the general idea of the composition, then the parts upon which the general idea is based. If description,—the things which go to make up the picture; if narrative,—the events which form the narration; if argumentative,—the points on which the author has based his argument, etc.

To think with the author: In seeing the relation of these parts to each other and to the general idea,—discriminating, comparing, judging,—the pupil is thinking with the author.

To knit new knowledge to the old: The student has been using the knowledge he already has to interpret the new knowledge, but he ought consciously to bring up what he already knows on the subject, gained through experience or previous reading. For instance, he has just read Carlyle's idea of a great man; he compares with Emerson's idea as gained in previous reading,—also with Lowell's idea. These ideas together with his own knowledge and his experience of great men constitute his body of knowledge of great men, which he will use in gaining new knowledge on the subject which new knowledge will in turn be compared with the old.

LITERARY MERIT.

Judgments in literary merit can only be formed after wide reading and many comparisons. As the student makes these comparisons he is building up his conception of style. Is the author clear in his statements? What of his skill in narration and illustration? Are his descriptions vivid? How does he interpret nature? Are his men and women real flesh and blood? How does this composition compare with others of the same kind? With others by the same author?

WHAT TO READ.

"If literature be the life of the people, it should also prepare for that kind of life in which the child is forced to live, immediately after passing out of school. While there may be room for discussion as to the style in which thought should be expressed, it is beyond dispute that the clearest writers, those who use the language to express unmistakably what they mean, those who deal with subjects that are nearest to the daily life of the people themselves, ought to become a part of the mental furnishing of each high school pupil."—J. M. Greenwood.

Lists of novels, essayists, and poets in the library should be made out, from which pupils may select what they wish to read. At least six novels should be read, each by a different author, part of them portraying life and part of them character. The students should read enough poetry by six different poets and essays by six different essayists to get a fair idea of their way of writing, as well as to get the uplift and power which come from reading. It is best to have all in the class reading novels, poetry, or essays at the same time,—though after the first two or three pieces of literature read together to show how to study, it is best to have students read different works of literature in any one line. The library law providing for libraries in the schools now extends to high schools in cities of the fourth class, so that schools ought to have books to carry on this work. In purchasing books the law provides that they must be selected from lists furnished by the state superintendent, and attention is called to the *High School List*. Teachers will find the notes on the books in this list especially valuable in teaching literature and directing literary readings.

PLACE OF HISTORY OF LITERATURE,—BIOGRAPHY AND LITERARY CRITICISM.

History of literature: A short course in history of literature,—taking the history in great epochs,—these epochs based upon the kind of literature produced,—may be of value in the study of literature. The history should serve as a frame-work to keep the reading organized and to help the student to get some idea of the entirety of literature. In the study of the history of literature some of the most typical pieces of literature might be read in a cursory way,—see high school list. It will scarcely be best to attempt anything before the period of Shakespeare.

The history of literature should come in the last term's work in literature.

Place of biography: When a student becomes so filled with the writings of any author that his personality becomes of interest then the biography may be read with profit. But the biography of an author should always be approached through his writing. In the literary production the writer has given us the best of himself.

Place of the text-book and literary criticism: After the student has read and made his judgments it is well to compare these judgments with those of critics, as found in his text-book, periodicals, and essays in criticism. The text-book should always be an *aid* in the work, not an *end*. When the study of literature is confined to the memorizing of the facts found in a text-book, the text-book is harmful. The text-book shows the scope of the subject, is a suggestive index for study, shows where things may be found, and brings together in compact form judgments on authors in their writings.

College entrance requirements: Essays, poetry, and fiction indicated as college entrance requirements, should fall in their proper place with other compositions of the same kind,—reserving those intended for more intensive study till the last part of the course.

THE RECITATION.

In beginning the work in any form of literature it is well to take one book or piece of literature, and for teachers and pupils to work together until the pupils gain some insight into the right way of reading.

For fiction is suggested: Ivanhoe—a picture of past life. Silas Marner—a study of character development. Rise of Silas Lapham—a study of American life, a novel of theme and a novel of character study.

For poetry is suggested: Vision of Sir Launfal, Lady of the Lake, The Princess, or a similar long poem which furnishes sufficient variety to cover work outlined under poetry.

For essays is suggested: Hunting of the Deer, or any short essay from pupils' readers.

Then let the pupil select from a given list of books such as he will like to read,—the teacher guiding the choice through the pupils' interests. In his study and recitations he should follow the models, studied with the teacher.

The work in reading and in class should be definite and clear. The student's judgments should be based upon facts he can point out. It is not enough that he says the music is smooth and flowing—he must recite or read the portions he considers "smooth and flowing" and tell what makes them so. If he call a poem imaginative he must prove his statement by selecting the imaginative portions.

The judgments should be *his own* and based upon *his own reading*.

As the student progresses the study of literature may become more and more intensive but it should never degenerate into parsing and analyzing.

The value of the study of literature will be greatly enhanced by the constant memorizing of such portions of literature as have appealed to the student in his reading, and certain recitations should be devoted to the reciting of memory gems.

Remember, that in all this work the teacher must know as far as possible what is in the pupil's mind—for the pupil can only understand and feel by the assistance of what he has already experienced, felt, and learned. He can only assimilate new ideas by means of his present ones. Every new relation of the idea helps to correct, clear, and extend the meaning, and instead

of trying to get the whole meaning in its one relation it is often better to read on, getting at truth in different relations and deepening and enriching experience at the same time.

It is impossible for a student at any one time of his life to comprehend the whole of a piece of literature, no matter how much time is spent in studying it.

LITERARY READINGS.

Special Aims:

- a. To learn how to read and to utilize that knowledge in practice.
- b. To extend student's knowledge of books and to develop a taste for and a love of good literature.
- c. Through his reading to put the student in touch with life around him by making him interested in what people of the world are interested in.

NATURE OF THE READING—CURSORY.

Scudder says, "There can be no manner of question that between the ages of six and sixteen a large part of the best literature of the world may be read." Which means that in the grades as well as in the high school this cursory reading must be carried on. Cursory reading does not mean skimming through a book and throwing it aside with no further thought—*it means rapid reading to get the pith and point—which implies skill in the right way of reading and in the use of books.* Says John Burroughs, "The way they teach literature in the schools and colleges is calculated to kill any love for it. It seems to me I would lose my love of Shakespeare if I had to dissect him, and find out the meaning of every word and expression. I want to ride buoyantly over the waves. I want to feel the wind and the motion—not talk about them. If I had to teach literature, I hardly know myself how I would do it. You can't by bearing on—you can't by mere intellectual force on a book show its charm. It appeals to the emotions. You have got to approach it in a different way. You must be fluid. All I should hope to do would be to give the student the key to the best literature. We would read books together. We would read good books and

we would read poor books. I would say, 'well, we won't talk; we will read and see. Here is a poor book—don't you see? It's overdrawn—'t isn't delicate!' I would get at books in their sentiment and general character, not in their details. If you tear it all in to bits, you haven't the thing itself any more."

LINES OF READING.

Literary reading should include all lines of reading. So far as possible the pupils should be guided in their choice of reading through their interests. Lists of books which are in the library should be made out in the various lines of reading from which the pupils may select the books they wish to read. It is not necessary that all the pupils in a class read the same book, or books on the same subject. Nor is it necessary that a pupil read a book from cover to cover. Many times only a portion of a book will appeal to a pupil—or be of value to him. This is especially so in science books, books of poetry, and books where a part meets some interest started in the regular school work; as, a part of a book of history which relates to a topic in the history lesson.

GUIDING A PUPIL IN HIS CHOICE OF READING THROUGH HIS INTERESTS.

The teacher cannot guide the pupils' reading unless she makes a careful study of their interests and needs. She must lead them from the interests of today to higher and wider interests and utilize at every step interests gained in other lines of work. She must take advantage of interests closely related to old interests, or those naturally growing out of old interests; interests created by pupils' environment, as Indian relics in Wisconsin; interests in current events coming to his notice; as, a circus in town, the Spanish-American War, the celebration of Washington's Birthday, etc., etc.; interests created by another's interests; as reading a book because another says it is good. Make the pupil's present interest the basis which shall determine his present line of reading. If he is interested in fiction only, then give him a list of fiction from which he may select a book to read. By questioning, by directing his attention, or arousing his curiosity, he may be made interested in some character, place, fact, or event in the book, and this interest may be made the basis for future reading. Thus a pupil reading *Ivanhoe*

may be led to read English history by arousing an interest in Richard, the Lion-Hearted. Again, a pupil who has read a story of Holland may be led to read a book of travel in Holland, because of interest aroused in the manners and customs of that country. If the pupils' present interest is in history, science, or other lines of work, a similar plan may be pursued. The work will have to be largely individual.

THE WAY TO GUIDE THE PUPIL IN HIS READING.

The teacher should have clearly in mind the way to read the different kinds of literature as outlined in the Manual, under the topic "Literature." By questioning, by directing attention to what is essential, and by directing discussions, lead the pupils into the right way of reading. Remember that the work is new to the pupils and do not expect too much at first. Suppose the class has been reading fiction portraying life. The teacher cannot expect them to cover all the points in the outline (see p. 63 this Manual), but will ask for a single point—as descriptions of characters in the book which may be considered as types. The student may be asked to be able to report on homes and surroundings, and amusements for the next recitation. Successive topics may be taken up with the same books or others until the pupil has a fairly good idea of what he is expected to get out of the novel of life. After considerable practice he will be able to discuss all the points in a single book. (See Literature—Fiction, Poetry, Essay, in this Manual.)

THE RECITATION.

For convenience the classes should be divided into groups—the smaller, the better; each group meeting the teacher twice a week for forty or forty-five minutes to report.

The recitations should consist of reports of what has been read, and these reports should be oral. The recitation ought to be an exchange of impressions and feelings, a talking over of what has been found enjoyable, good, beautiful, and helpful. The pupil makes his report as a contribution to the whole and stands ready to answer questions by his class-mates and teachers; to discuss with them what he has found; and to compare his judgments with theirs. Thus all take part in the recitation and attention is secured. The reports should not be too much in detail and should follow in general the plan of reading out-

lived in *Literature*. It is not necessary that the students in any one group read and report on the same book or on different books in the same subject.

UTILIZE THE MATERIAL GAINED IN THIS READING IN OTHER LINES
OF WORK.

In the geography class the descriptions found in fiction and in books of travel may be used to advantage to help the pupils see the places studied. In the history class descriptions of life from historical fiction will help the pupil to visualize history and to get the spirit of the times. Biography will make history real, besides giving to the pupil ideals of character and action. In the class in science the student may be led to read the books of science which will broaden and make more interesting his study of science.

Suppose the pupils are studying the topic in history "Results of the Norman Conquest in English History." There is no book that will give them a better idea of life in England at that time than Scott's "Ivanhoe." Under the topic "Character of the Saxons and Normans"—ask those pupils who have read *Ivanhoe* to describe the characters of Athelstane, Rowena, and Cedric, as types of Saxons; and the Norman nobles Boenif, Fitzurse, de Bracy, Bois—Guilbert, as types of Norman character. Results in language will be shown in the conversation between Gurth and Wamba. Results in literature will be shown in the French verses and Anglo-Saxon ballads. Condition in religion will be shown by the conditions of the church and the intolerance of all classes as portrayed in the novel, etc., etc.

By calling for these topics the pupils may be led to read portions of the book more carefully, and with a young or inexperienced class it may be well to refer to the novel by pages under each topic. Not all of the literary reading is for the purpose of supplementary school work. Care should be taken not to make the work a drudgery, but a delight.

RECORDS.

A careful record of what pupils read should be kept. It is a good plan to have pupils when they have read a book write on a sheet of paper the title of the book, the author, date of reading,

and things in the book which they have liked best. The following form has been found practical:

NAME OF PUPIL— CLASS.

Title.	Author.	When read.	Remarks.
Prince and Pauper.	D. Clemens.....	Jan. 1, 1900..	A very interesting story about two boys who change places.
Ivanhoe.....	Sir Walter Scott.	Jan. 20, 1900..	Fine book. Tells about Richard the Lion Hearted, also about knights in England long ago.
Nobility of Labor...	Thomas Carlyle.	Feb. 4, 1900..	Shows that all labor is honorable, be it high or low, with head or hand.

If these sheets are carefully kept they will show what a student has read during his four years in the high school. Many times "the remarks" are a key to the pupil's interests and tell what he has gained from his reading.

PART III.

Laws and Comments.

STATUTES RELATING TO FREE HIGH SCHOOLS.

How established—Single districts.

SECTION 490. Any town, village or city, school district or sub-district which contains within its limits an incorporated village or which has a graded school of not less than two departments may establish and maintain not exceeding two high schools in the manner and with the privileges herein provided; but no such school shall be established or maintained unless twenty-five persons of school age, resident of the town, city, village, school district or sub-district, pass a satisfactory examination in the branches required to be taught in the common schools and are prepared to begin a high school course. The question of establishing such schools may be submitted by the town, district, sub-district or village board or common council to the legally qualified voters at any annual or special meeting or election upon written resolution therefor proposed for adoption; provided, notice of such purpose, embodying such resolution, be given in the manner provided for notifying a special district meeting, town meeting or charter election. In the case of a sub-district the meeting may be called by the clerk thereof. The vote shall be taken by ballot and canvassed according to the statutes for conducting elections in such municipality, those ballots in favor being written or printed, "for high school;" those opposed, "against high school." If the resolution be adopted, such town, district, sub-district, village or city shall constitute a high school district. But this section shall not apply to high schools already established.

How established—Joint districts.

SECTION 491 as amended by Section 1, Chapter 57, Laws of 1899. Two or more adjoining towns or school districts, or one or more towns or school districts and an incorporated village or city; when the same together will make a district of contiguous

territory; may unite in establishing and maintaining any such high school. The resolution proposing the same shall be approved and submitted and the notice of election signed by at least a majority of the supervisors of each town, the directors of each school district, the common council of such city and trustees of such village, if any, and the election shall be notified and conducted in each town, school district, city or village as provided in the preceding section. Such resolution shall not be adopted unless a majority of the votes cast in each such town, school district, city or village be in favor thereof. The votes shall be canvassed at the first election, and all subsequent elections in the several towns as at town meetings, in the several school districts as at annual school district meetings, in the city, if any, as at a charter election, and in the village, if any, as at village elections; and the supervisors of the several towns, directors of said school districts, common council of such city and trustees of such village shall, within one week after such election, meet and canvass the votes and certify the result to the town clerk of each town, the clerk of each school district, the clerk of such city and to the village clerk of such village. If such resolution be adopted, the town, or towns, school district or school districts and city and village, so voting, shall constitute a joint high school district.

Certificate.

SECTION 491*a*. Whenever a free high school shall have been established and maintained as provided in sections 490 and 491 for at least three months and the proper board shall have made the report required by section 496 in order to obtain the aid furnished by the state in maintaining free high schools, they shall append thereto a certificate that such school is established and maintained in one or more towns or in one or more towns and a village wherein no graded school exists.

State aid.

SECTION 491*b*. Upon receiving the reports and appended certificate provided for in section 496, it shall be the duty of the state superintendent to make a separate and distinct class of the schools thus established and maintained in towns or in towns and villages where no graded schools exist, and each such school shall be entitled to receive from the general fund of the state, annually, one-half the amount actually expended for instruction therein; and said superintendent shall fix the amount to be paid

to each of said high schools and certify the same to the secretary of state at the time and in the manner he is now required to fix and certify to him the amount to be paid to high school districts. On such certificate, at any time after the first day of December, the same shall be paid to the district treasurer out of the state treasury; but the whole amount so paid shall not exceed twenty-five thousand dollars in any one year to this class of free high schools, and if more is demanded by such districts they shall be paid proportionally. The secretary of state shall annually include and apportion in the state tax all such sums as shall have been so paid, in addition to the amount authorized to be paid in aid of free high schools by section 496 and in addition to all other sums to be levied for the year.

District officers.

SECTION 492. The officers of each such district shall be a director, treasurer and clerk, whose term shall be each three years, beginning with the annual town meeting, and until his successor shall have been chosen; provided, that at the first election the clerk shall be chosen for one year, the treasurer for two years and the director for three years, and all of said officers may be chosen first at the same election at which the question of establishing a high school is submitted, to take their offices if the resolution therefor be adopted. Thereafter such officers shall be elected at the annual town meeting or charter election. The votes cast shall be canvassed and the result declared and certified as provided in the preceding sections. But in all cities not under a county superintendent which now constitute free high school districts or which shall hereafter adopt the resolution provided for in section 490 and become free high school districts, the board of education in each such city shall be the high school board and the city treasurer shall be ex officio the treasurer of the high school district unless the board of education embrace a treasurer; and in all districts maintaining a graded school of not less than two departments which now constitute free high school districts or which shall hereafter adopt said resolution, the district board in each shall be the high school board and the district treasurer shall be the treasurer of the high school district. Whenever a sub-district shall vote to establish and maintain a free high school, such sub-district shall constitute a free high school district, shall elect a free high school board, the clerk for one year, the treasurer for two years and the director for three years; thereafter

one officer shall be elected annually in place of the one whose term expires at the annual meeting of such sub-district, and such high school board shall perform all the duties and have the same authority as high school boards in towns or districts. The clerks shall certify all taxes levied for high school purposes to the town, city or village clerk, who shall apportion the same upon the taxable property of the sub-district, and the treasurer of such municipality shall collect the taxes thus apportioned and pay over the same to the high school treasurer and return the delinquent taxes to the county treasurer as in other cases. Where a high school district consists of two or more towns or a village and one or more towns, the officers thereof shall be elected for the same terms as in other districts by joint vote of the town boards of such towns or the board or boards of the town or towns and village which have united in forming such district. Such town boards shall hold their first meeting to elect officers at two o'clock P. M. on the first Tuesday following the town meeting at the office of the clerk of the town having the largest population, and thereafter shall meet for such purpose at the same time at such place as may be determined upon. The first meeting of the board or boards of a town or towns with the board of any village which forms such a district shall be held at two o'clock P. M. on the first Tuesday next following the village election at the office of the village clerk; all subsequent meetings shall be held at the same time at such place as may be determined upon. A majority of all the members of such boards shall be necessary to constitute a quorum. The secretary of the meetings of such boards shall certify the names of the officers of the district elected thereat to all the clerks of towns and the clerk of the village in the district. The officers so elected shall have the same authority, be charged with the same duties and be under the same liabilities as other officers of such districts.

Officers' duties; other statutes apply.

SECTION 493. Such officers shall constitute the high school board, and shall conduct the affairs of the high school district on the same general plan provided for a school district, and possess, with respect to such high school district, all the powers and be charged with all the duties conferred and imposed by these statutes on the district officers and district board of a school district applicable to such high school district; the treasurer shall give a like bond, to be approved and filed in a similar manner.

The high school district clerk shall make a similar report to that required by section 462, omitting the first subdivision. The board may grade such school and establish the branches of study to be taught therein, under the advice of the state superintendent. Every forfeiture and punishment for neglect or violation of duty in a school district officer shall apply to a high school district officer for like neglect or violation. The reports of free high schools in cities not under a county superintendent shall be included in the reports from such cities to the state superintendent.

Schools free; teachers' qualifications.

SECTION 494. All such high schools shall be free to all pupils resident in the district. Every principal of such school shall, in addition to his qualifications as teacher of a common school, be a graduate of some university, college or normal school, hold a state certificate or pass an examination in the studies required to be taught in any such school; provided, the state certificates authorized by law and the certificates authorized by section 496a shall qualify their holders both as principals and as teachers of common schools; and each principal and assistant teacher in a free high school shall be eligible to teach only on approval of his certificate by the state superintendent; and the high school board or boards of education having charge of such schools shall determine, with the advice and consent of such superintendent, the course of study and minimum standard of qualification for admission to the same.

SECTION 458b. * * * Neither a limited state certificate nor a certificate from the elementary course of a normal school shall qualify the holder as principal of a free high school having a four years course of study.

Taxes, apportionment of.

SECTION 495. The high school board shall annually, on or before the second Monday in September, meet and determine the amount necessary to be raised by tax for the support of such high school, and certify the same to the proper town, city, or village clerk; if a joint high school district, they shall certify to the clerk of each town or to such clerk and the village clerk the proportionate amount thereof to be raised by such town or village, such proportion to be determined according to the total valuation of all the taxable property therein as equalized by the boards of review, statements of which shall, as soon as the as-

assessment is complete, be sent by the respective town or village clerks to the clerk of such district. Such tax shall be apportioned on the next tax roll by such clerk or other officer making the same, and collected and returned as other taxes, and paid to the high school district treasurer. Such moneys shall be paid out only on orders drawn and countersigned as prescribed in case of school districts. Any town which is in a single high school district may, by resolution adopted at the annual town meeting, limit the amount to be raised for high school purposes during such year. In case of a joint high school district, the town boards of the several towns or of the town and village or towns and village embraced may, by a joint resolution adopted by all such boards before the first day of July, likewise limit the amount to be raised therein.

State aid, how obtained.

SECTION 496 as amended by Chapter 214, Laws of 1899. Any high school district which shall have established a free high school according to the provisions of these statutes, and shall have maintained the same for not less than three months in any school year, shall be entitled to receive from the general fund of the state annually one-half the amount actually expended for instruction in its high school during such year over and above the amount required by law to be expended for common school purposes, but not to exceed in one year five hundred dollars to one district; provided, this limitation shall not apply to the class of high schools designated in section 491a. To obtain such aid the high school board, or in cities not under a county superintendent, the president and secretary of the board of education and the treasurer, shall, on or before the first day of November, report in duplicate to the state superintendent, under their oaths, the amount actually expended for instruction during the previous school year, specifying the several items thereof, with the date and the object of each fully. Thereupon said superintendent shall fix the amount to be paid such district and certify the same to the secretary of state, with one of such reports annexed; provided, the state superintendent may withhold such certificate from any district for reasons based upon failure to comply with the law relating to free high schools, which reason he shall transmit to the school board thereof on or before the thirtieth day of the next succeeding June. On such certificate, at any time after the first day of December, the

certified amount shall be paid to the district treasurer out of the state treasury. The secretary of state shall annually include and apportion in the state tax all such sums as shall have been so paid. Whenever, by any neglect or omission, any free high school shall fail to have apportioned to it its share of state aid, the state superintendent may, after the time hereinbefore fixed for such apportionment by him, fix an amount ten per centum less than the amount which such school would have been entitled to had it complied with the provisions of this section, and certify the same to the secretary of state with the report of such district annexed thereto, and the secretary of state shall thereupon draw his warrant for such amount or amounts in favor of such district. The whole amount annually paid under the provisions of this section shall not exceed seventy-five thousand dollars, and if more be demanded by such districts they shall be paid proportionally; provided, that if the whole amount authorized to be paid annually in aid of free high schools in towns having no graded schools by section 491b is not demanded or expended under the provisions of that section, then the unexpended balance of the amount therein annually authorized to be paid in aid of such schools may be added to and apportioned among the free high schools provided for in section 490 and 491; but no more than one hundred thousand dollars shall be apportioned to both classes of schools in any one year.

Supervision and course of study.

SECTION 496a. The state superintendent shall prepare a course or courses of study suitable to be pursued in free high schools, publish the same, and furnish them upon application. He shall exercise such personal supervision and make such personal inspection of the work of all such schools as they seem to require and the other duties of his office may warrant; he shall examine or cause to be examined all teachers of high schools required by law to pass special examinations to qualify them for teaching in high schools, and grant certificates to such as pass examinations satisfactorily, which certificates shall be in such form and for such time as he may prescribe, and shall authorize the holder to teach in such special place or places, or in the whole state, as the qualifications of the candidate may warrant. The course of study herein authorized to be prepared shall include instruction in the theory and art of teaching, and the organization, management and course of study of ungraded schools, and all

examinations shall cover these subjects. Said superintendent shall furnish suitable blanks for annual and special reports for all such schools, which shall require returns as to the number, age and sex of all pupils enrolled, the number in each class or year of the course of study, the number pursuing English branches only, the number completing the course of study each year and such other statistics as may be deemed necessary.

Manual training.

SECTION 496*b*. Any board having charge of a free high school or of a high school having a course of study equivalent to the course or courses prescribed by the state superintendent for such schools may establish and maintain a department of manual training in connection with the school under its management. The expense of maintaining such department shall be provided for in the same manner as other expenses of maintaining high schools, and such department shall be under the management, direction and control of such board. The state superintendent shall, so far as his other duties may warrant, give such information and assistance as may seem necessary in organizing and maintaining such departments, and in arranging schemes and outlines of work; and with the aid of the inspector of high schools shall have the general supervision of all manual training departments established under this section; shall from time to time inspect the same, make such recommendations relating to their management as he may deem necessary, and make such report thereon as shall give full information concerning their number, character and efficiency. The state superintendent shall establish a standard of qualification for all teachers in such department, and may grant special certificates to such applicants as are fully qualified to instruct in special lines of manual work, which certificates shall be in such form and for such time as he may prescribe, and shall be regarded as qualifying the holders thereof to teach in any manual training department.

Manual training schools.

SECTION 496*c*, as amended by Section 1, Chapter 273, Laws of 1899. Any high school whose course of study or outline of work in manual training has been approved by the state superintendent, and whose teacher has been qualified may, upon application, be placed upon an approved list of schools maintaining

manual training departments. A school once entered upon such list may remain there and be entitled to state aid so long as the scope and character of its work are maintained in such manner as to meet the approval of such superintendent. On the first day of July in each year the clerk of each school board maintaining a school on the approved list or the city superintendent of any city where such an approved school is maintained, shall report to the state superintendent in such form as may be required, setting forth the facts relating to the cost of maintaining the manual training department thereof, the character of the work done, the number and names of teachers employed, and the length of time such department was maintained during the preceding year. And upon the receipt of such report, if it shall appear that the department has been maintained in a satisfactory manner for a period of not less than six months during the year, the said superintendent shall make a certificate to that effect and file it with the secretary of state. Upon receiving such certificate the secretary of state shall draw his warrant for two hundred and fifty dollars payable to the treasurer of the district or corporation maintaining the school; provided, that the total amount expended for such purpose shall not exceed five thousand dollars in any year.

FORMS FOR ESTABLISHING FREE HIGH SCHOOLS.

No. 48.

Form of resolution proposing establishment of a high school.

In order that the question of establishing and maintaining a high school in the town of —— may be submitted to the electors thereof for determination, the following resolution is hereby proposed for adoption:

Resolved, by the town board of the town of ——, That a high school be established and maintained in said town. The town clerk is directed to give notice that said resolution will be submitted to a vote at the annual town meeting (or, general election) to be held in said town on the —— day of ——, 19——, (or, at a special meeting or election to be held on the —— day of ——, 19——, which the town clerk is hereby required to call upon due notice.)

Dated this —— day of ——, 19——.

(Signatures of Board.)

Form of notice that the foregoing resolution will be submitted to vote.

Notice is hereby given to the electors of the town of ——, in the county of ——, that at a special election which is hereby called (or at the annual town meeting or general election) to be held in said town on the —— day of ——, 19——, the following resolution will be submitted to the vote of said electors:

Resolved, etc. [as in the foregoing] and that at said election members of the high school board will be chosen, to take their offices if said resolution be adopted, the clerk for one year, the treasurer for two years, and the director for three years; their respective terms of office beginning with the annual town meeting.

Dated this —— day of ——, 19——.

(Signed) ——, Town Clerk.

No. 50.

Form of certificate to be forwarded to the state superintendent to secure participation in apportionment to free high schools.

This may certify that on the — day of —, 19—, the legal voters of the town of — [or towns of —, where two or more towns unite, or of school-district No. —, town of —, where vote is by a school-district, or city, or village] adopted a resolution to establish and maintain a free high school in said town (or towns, or school-district), and the persons whose names are hereunto appended have been duly elected to the office appended to their names, respectively. We further certify that no (or one or more) graded school exists in said — of —. The course of study adopted by said high school board for said high school is herewith submitted for the approval of the state superintendent and the names and examination papers of —, pupils prepared to enter said high school, who are residents of said town (or towns, or school district) of —, are herewith forwarded for inspection. The examination of these pupils was held on the — day of —, 19—, and was conducted by —.

Dated at —, this — day of —, 19—.

—	}	<i>Director.</i>
—		<i>Clerk.</i>
—		<i>Treasurer.</i>

Note.—With this certificate the examination papers of at least twenty-five pupils, residents of the high school district, should be forwarded. The character and scope of these examinations are commented upon in the high school pamphlet.

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